

# In the United States Court of Federal Claims

No. 07-849 C

(E-Filed: May 23, 2012)

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GRAND ACADIAN, INC.,	)
	)
Plaintiff,	)
	)
v.	) Claims Under Lease for Damage
	) to Property; Counterclaims for
	) Fraud
THE UNITED STATES,	)
	)
Defendant.	)

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Howell Roger Riggs, Huntsville, AL, for plaintiff. Timothy P. Pittman, Huntsville, AL, and W. Todd Fontenot, Lake Charles, LA, of counsel.

Douglas G. Edelschick, with whom were Tony West, Assistant Attorney General, Jeanne E. Davidson, Director, Patricia M. McCarthy, Assistant Director, Jeffrey D. Klingman and John J. Todor, Trial Attorneys, Commercial Litigation Branch, Civil Division, United States Department of Justice, Washington, DC, for defendant. Jean Hardin, Attorney, General Law Division, Office of Chief Counsel, Federal Emergency Management Agency, Washington, DC, of counsel.

## OPINION<sup>1</sup>

HEWITT, Chief Judge

This case arises from a cancelled construction project on leased property where the United States (defendant or the government), acting through the Federal Emergency Management Agency (FEMA), had sought to create a recreational vehicle (RV) park as emergency housing for victims of Hurricanes Katrina and Rita. See Grand Acadian, Inc. v. United States (2009 Summary Judgment Opinion or 2009 SJ Op.), 87 Fed. Cl. 193, 196, 205 (2009).

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<sup>1</sup>For convenient reference, the court attaches at the end of this Opinion a list with the name, in alphabetical order, and a description of each witness upon whose live testimony the court relies (Appendix A) and a Table of Contents (Appendix B).

Grand Acadian, Inc. (plaintiff or Grand Acadian) alleges that the government breached its contractual obligations to construct infrastructure on the Leased Property, see *id.* at 195; *infra* Part I (providing background), and to “remove any physical additions and improvements, repair any alterations, and restore the premises to the condition existing at the lease commencement date, normal wear excepted,” 2009 SJ Op., 87 Fed. Cl. at 207 (quoting Lease Rider ¶ 6); see also *infra* Part III.B.3 (describing the Lease). The court granted summary judgment to defendant on Grand Acadian’s claimed breach of an obligation to construct infrastructure. 2009 SJ Op., 87 Fed. Cl. at 199-207. On Sunday, November 6, 2011 the court conducted a site visit and thereafter the trial of Grand Acadian’s claim for restoration and the government’s counterclaims, see Apr. 15, 2011 Order, Docket Number (Dkt. No.) 98, at 4 (setting forth the dates of the trial), which allege that Grand Acadian’s certified claim is false and fraudulent, see Def.’s Third Am. Answer, Affirmative Defenses, and Counterclaims (Answer), Dkt. No. 74, ¶187; *infra* Part V (discussing the government’s counterclaims).

Now before the court are the Transcript (Tr.) of the trial, held in Lake Charles, Louisiana from Monday, November 7, 2011 through Thursday, November 10, 2011, from Monday, November 14, 2011 through Friday, November 18, 2011, see Dkt. Nos. 160-76 (transcripts of proceedings held November 7-10, 2011 and November 14-18, 2011), and in Washington, DC on January 5, 2012,<sup>2</sup> see Dkt. No. 184 (transcript of proceeding held January 5, 2012); and Defendant’s Post-Trial Memorandum of Facts and Law (Def.’s Br.), Dkt. No. 188, filed January 27, 2012; Plaintiff’s Post-Trial Brief (Pl.’s Br.), Dkt. No. 189, filed January 27, 2012; Defendant’s Response to Plaintiff’s Post-Trial Memorandum (Def.’s Resp.), Dkt. No. 192, filed February 17, 2012; and Plaintiff’s Response in Opposition to the Government’s Post-Trial Memorandum of Facts and Law (Pl.’s Resp.), Dkt. No. 193, filed February 17, 2012.

## I. Background

In December 2004 Grand Acadian purchased a sixty-acre tract of wooded property (Grand Acadian’s property or the sixty-acre property) in Sulphur, Louisiana for \$217,320. Joint Stip. of Facts (JS), Dkt. No. 108, ¶ 1; *cf.* Joint Ex. (JX) 1 (July 25, 2004 Aerial Photo<sup>3</sup>) (showing Grand Acadian’s property). Between July 2005 and October

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<sup>2</sup>At the conclusion of the trial in Lake Charles, Louisiana, the record remained open at defendant’s request to admit the live testimony of Ms. Heather Berg, a witness called to testify by defendant, who was out of the country at the time of the trial. *Grand Acadian, Inc. v. United States*, 101 Fed. Cl. 398, 410 (2011). The court heard the testimony of Ms. Berg in a final day of trial in Washington, DC on Thursday, January 5, 2012. See Oct. 27, 2011 Order, Docket Number (Dkt. No.) 154, at 1-2.

<sup>3</sup>The parties have stipulated that the photographs cited by the court in this Opinion are “true, accurate, and admissible” and have stipulated to the dates that the photographs were taken. See Joint Stip. of Facts (JS), Dkt. No. 108, ¶¶ 78-100.

2005 Grand Acadian cleared and logged the sixty-acre property with the intention of developing it as an RV park. See infra Part III.A.4.

On or about August 29, 2005 and September 23, 2005 Hurricanes Katrina and Rita struck the Gulf Coast region of the United States. See infra Part III.B.1. The hurricanes left approximately 200,000 to 300,000 families without shelter and the federal government sought to provide temporary housing for those who had been displaced. See infra Part III.B.1.

Because the need for temporary housing after the hurricanes exceeded the available supply of housing options that do not require new construction--such as hotel rooms and existing RV pads--the government decided to develop several RV parks. See infra Part III.B.1. Representatives of the government visited Grand Acadian's property and the government signed a lease (the Lease) for the western half (the Leased Property) of Grand Acadian's property on December 7, 2005. See infra Parts III.B.2-3. Grand Acadian ceased work on the Leased Property, but continued to develop the eastern half of its property (the Non-Leased Property) as an RV park. See infra Part III.A.5.

The government's contractor, Fluor, began work on the Leased Property on January 7, 2006 and immediately encountered difficulties. See infra Parts III.D.1-3. The upper layer of soil was too wet and unstable to support development and required time-consuming remediation to create a dryer, more stable surface. See infra Part III.D.2. The government worked to remediate the soil; however, in the meantime, the demand for temporary housing decreased. See infra Part III.D.3. In light of the delay resulting from the difficulties that Fluor encountered while working on the Leased Property and the simultaneous decrease in demand for temporary housing, see infra Part III.D.3, the government ceased construction and informed Grand Acadian that it intended to exercise its right to terminate the Lease, effective at the end of its first one-year term, see JS ¶¶ 56-59.

Mr. John Patrick (Pat) McConnaughay is a shareholder of Grand Acadian and serves as its president and as a member of its board of directors. See McConnaughay Dep.<sup>4</sup> 8:18-9:1, Oct. 28, 2008. On February 20, 2006, see Tr. 642:1-6 (McConnaughay), following discussions between Mr. McConnaughay and government

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<sup>4</sup>Defendant designated portions of two depositions of Mr. John Patrick (Pat) McConnaughay for admission at trial pursuant to Rule 32 of the Rules of the United States Court of Federal Claims (RCFC). See Def.'s Consent Mot. to Introduce Dep. Testimony of Pl.'s President and Corporate Designee, Dkt. No. 122, at 1. The selected portions were filed on the court's docket, see Dkt. No. 122-1 (McConnaughay Dep., May 21, 2010); Dkt. No. 122-2 (McConnaughay Dep., Oct. 28, 2008), and were admitted into evidence as Defendant's Exhibit (DX) 27, see Trial Transcript (Tr.) 593:18-22 (court). Several pages of DX 27 that were omitted in error were subsequently admitted as DX 27.1. See Tr. 3746:10-24 (colloquy between the court and counsel).

employees, Grand Acadian sent the government a document styled a settlement proposal (the Settlement Proposal),<sup>5</sup> see JX 49 (Settlement Proposal) 0230.<sup>6</sup> Grand Acadian sought payment of the balance of the first year's rent and stated that the government had damaged the Leased Property and had failed to provide for its "restoration to a reasonable condition." See id. The Settlement Proposal further stated that, "[i]n the event that the lease is terminated and the property is returned to lessor in its present state, Grand Acadian will, in addition to the costs of restoration of the land and the loss of rental income, suffer numerous damages," including loss of infrastructure that the government had proposed to construct and leave in place at the end of the Lease and additional expense in proceeding with its own construction plans. Id. at 0231. Attached to the Settlement Proposal was a proposal from D&G Construction, L.L.C. (D&G), the body of which stated in its entirety, "1. Remove and dispose of unsuitable soil from site. 2. Import and compact select soil to subgrade. TOTAL \$1,998,000.00." Id. at 0233. The Settlement Proposal included several items in addition to the amounts in the D&G proposal, including \$100,000 for "[r]eplanting of trees," and stated that Grand Acadian "proposes to accept the sum of \$2,811,462.38 in full satisfaction of its claim." Id. at 0230.

The Settlement Proposal did not lead to settlement. "On June 14, 2006, Grand Acadian submitted a certified claim [(the First Certified Claim)] to the Government demanding payment of \$5.7 million for 'repairs and restoration' of the property." JS ¶ 61; see also JX 56 (First Certified Claim). However, Grand Acadian attached no documentation to its First Certified Claim to support the amount of \$5.7 million that Grand Acadian claimed it was owed. See JX 56 (First Certified Claim). On June 22, 2006 the government sent Grand Acadian a letter stating that "[i]n order to review your claim, you must provide us with additional documentation in support of your claim." JX 57 (June 22, 2006 Letter from FEMA).

"In July 2006, Grand Acadian submitted a revised certified claim [(the Second Certified Claim)] to the Government demanding payment of \$5.75 million for 'repairs and restoration' of the property." JS ¶ 62; see also JX 59 (Second Certified Claim). Attached to Grand Acadian's Second Certified Claim was a cost estimate compiled by Lancon Engineers, Inc. (Lancon Engineers), which itemized the components of Grand

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<sup>5</sup>Defendant characterizes Joint Exhibit (JX) 49 (Settlement Proposal) as "an uncertified 'claim for damages.'" Def.'s Post-Trial Mem. of Facts and Law (Def.'s Br.), Dkt. No. 188, at 56. Because it is immaterial to the outcome of this action whether JX 49 is a settlement proposal or an uncertified claim for damages, the court makes no finding of fact on this issue. JX 49 was offered into evidence by defendant without objection. See Tr. 597:15-20 (colloquy between Mr. McConnaughay, the court and defendant's counsel).

<sup>6</sup>The court refers to exhibits that lack clear or consistent pagination by the final four digits of the Bates number appearing at the bottom of the referenced page.

Acadian's restoration claim. See JX 59 (Second Certified Claim) 0009-10. Among the items listed in the cost estimate was the cost to "[r]eplace trees originally planned to remain in facility" and the cost to "hydroseed" grass. Id. at 0010. The total cost estimate of \$5,749,383 included approximately \$4 million for the replacement of soil.<sup>7</sup> Id. The certified Second Certified Claim contained no explanation of why Grand Acadian had claimed a cost to replace soil twice as high as the cost listed in its Settlement Proposal.

"On September 28, 2006, Grand Acadian submitted a supplemental certified claim [(Supplemental Certified Claim)] to the Government demanding payment of \$1 million for remediation of silt run-off into the adjacent bayou." JS ¶ 64; see also JX 65 (Supplemental Certified Claim). Grand Acadian also claimed \$570,000 for lost revenue from its planned RV park, \$1,120,000 for increased construction costs, \$350,000 for increased borrowing costs and \$12,000,000 for "Loss of Improvements to Land"; the foregoing increased the amount of its claimed damages by \$15,040,000, for a total of \$20,789,383. JX 65 (Supplemental Certified Claim) 0271. On December 14, 2006 the contracting officer denied Grand Acadian's claims in their entirety.<sup>8</sup> JS ¶ 69.

On November 30, 2007 Grand Acadian filed this action in the United States Court of Federal Claims. See Compl., Dkt. No. 1, at 1. Grand Acadian alleged that Fluor had not followed its own project specifications and failed to create adequate drainage before beginning construction with heavy equipment. First Am. Compl., Dkt. No. 8, ¶¶ 50-53. Grand Acadian alleged that "[a]s this heavy machinery tracked back and forth across the undrained site, it mixed topsoil, surface debris, mud, clay, and other material." Id. ¶ 54. Grand Acadian alleged that this "destructive activity created an unstable surface that is unable to support the proposed structures." Id. ¶ 55. Grand Acadian argued that the government "failed to restore and repair the property as required in the Lease with Grand

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<sup>7</sup>The cost estimate divided Grand Acadian's restoration claim into the following construction-related components: (1) undercut the East Ditch by one foot and backfill with compacted material (\$112,674); (2) undercut the South Ditch by one foot and backfill with compacted material (\$94,977); (3) undercut the retention pond by one foot and fill with compacted material (\$197,237); (4) undercut the surface of the Leased Property by four feet and backfill with compacted material (\$3,433,780); (5) replace 150 trees (\$150,000); (6) "hydroseed" thirty acres of grass (\$120,000); and (7) de-water soil (\$225,000). See JX 59 (Second Certified Claim) 0010; cf. infra Part III.D.1 (describing Fluor's construction of the East Ditch, the South Ditch and the retention pond).

The cost estimate also included a 20% project contingency fee (\$866,734); a "Topographic and Property Survey" (\$20,000); a "Resident Project Representative" for one year (\$93,600); and engineering fees (\$435,380). See JX 59 (Second Certified Claim) 0010.

<sup>8</sup>There is no dispute that the government paid rent for the one-year term of the Lease. "The Government paid Grand Acadian one full year's rent, a total of \$252,262.50, pursuant to the terms of the lease contract." JS ¶ 71.

Acadian” and that “[w]hat remained was destruction and devastation instead of the \$12,000,000.00 in infrastructure that was promised in return for the Lease.” Id. at 3.<sup>9</sup>

Grand Acadian’s Complaint sought damages of \$12,000,000 for the government’s failure to construct improvements, \$6,000,000 for damage to the Leased Property, \$2,040,000 “for loss of revenue, increased construction cost and increased cost of borrowing” and \$1,000,000 “for remediation of silt run-off into [the] adjacent bayou caused by [the failure of the government’s contractors] to follow appropriate procedure.”<sup>10</sup> Id. ¶ 178.

In its answer, the government denied that Grand Acadian is entitled to the relief it requested and pleaded as an affirmative defense that the government is entitled to offset the first \$800,000 of any damages awarded to Grand Acadian because of a settlement reached by Grand Acadian with Fluor and Fluor’s subcontractors and insurers. Answer ¶ 184. The government also raised the affirmative defense of “illegality as a result of submitting a false claim.”<sup>11</sup> Id. ¶ 185. The government alleged that “Grand Acadian

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<sup>9</sup>The parties’ pleadings contain sections with numbered paragraphs and sections without numbered paragraphs. See, e.g., First Am. Compl. (Am. Compl.), Dkt. No. 8, at 3; Def.’s Third Am. Answer, Affirmative Defenses, and Counterclaims (Answer), Dkt. No. 74, at 33. The court cites to the numbered paragraph(s) or, for material not in numbered paragraphs, to the page number(s).

<sup>10</sup>Grand Acadian has withdrawn its \$1,000,000 claim for remediation of silt runoff. See Tr. 3844:13-16 (plaintiff’s counsel) (stating that the claim regarding “the silt in the bayou . . . [] has been withdrawn”); Tr. 3845:2-3 (plaintiff’s counsel) (“We withdrew the claim for the silt in the bayou . . .”).

Further, because Grand Acadian presented no evidence at trial and made no argument in its pretrial or post-trial briefing regarding its \$2,040,000 claim “for loss of revenue, increased construction cost and increased cost of borrowing,” Am. Compl. ¶ 178, the court also views this claim as withdrawn.

<sup>11</sup>Defendant also raised the affirmative defenses of release, based upon an agreement signed by plaintiff “that holds the Government harmless for any damages to plaintiff’s property and releases any and all claims arising out of any activities of the Government on the property.” Answer ¶ 183. The court has found as a matter of law that, notwithstanding this agreement, the government had a duty, pursuant to the lease (the Lease) “to restore the Property to its pre-Lease condition.” Grand Acadian, Inc. v. United States (2009 SJ Op.), 87 Fed. Cl. 193, 208-09 (2009).

Even given the plethora of evidence adduced at trial, the government did not file counterclaims or raise affirmative defenses based upon Grand Acadian’s interference with drainage from the Leased Property or the condition in which the Leased Property was delivered at the commencement of the Lease term. Cf. infra Parts III.A.4-5 (describing Grand Acadian’s construction on the Non-Leased Property and its interference with drainage from the Leased Property).

made misrepresentations of material fact concerning the pre-lease condition of the property in connection with its certified claim for restoration of trees and grass.” *Id.* ¶ 218. The government pleaded counterclaims under the False Claims Act (FCA), 31 U.S.C. §§ 3729-31 (2006), the antifraud provision of the Contract Disputes Act (CDA), 41 U.S.C.A. § 7103(c)(2) (West 2012), and the Forfeiture of Fraudulent Claims Act (FFCA), 28 U.S.C. § 2514 (2006), seeking forfeiture of Grand Acadian’s entire claim and dismissal of its complaint, “damages in the amount of Grand Acadian’s unsupported claims, plus the Government’s cost of reviewing the false claims” and “such civil penalties as allowable by law,” Answer ¶¶ 186-233, p.33.

In two opinions addressing the parties’ motions for summary judgment, the court interpreted the government’s duties under the Lease and narrowed the issues that remain to be decided. The parties first filed cross-motions for summary judgment addressing whether the Lease required the government to construct infrastructure on the Leased Property or to restore the Leased Property to its condition at the beginning of the Lease term. *See 2009 SJ Op.*, 87 Fed. Cl. at 216-17. The court found that the government had no duty to construct infrastructure on the Leased Property, but that, if restoration is required, the government had a duty under the Lease to restore the Leased Property in accordance with the Lease’s restoration clause (Restoration Clause), that is, to its pre-Lease condition, “normal wear excepted.”<sup>12</sup> *Id.* The court found that, “[w]hile the general rule provides that recovery based on the cost of [restoration] is subject to an absolute ceiling of ‘diminution in fair market value,’” this rule is not applicable to the Lease because the Lease had been “specifically tailored” to allow Grand Acadian to require the government to return the Leased Property in its pre-Lease condition, “normal wear excepted.” *Id.* at 216 (internal quotation marks omitted).

The government filed a second motion for summary judgment, arguing that its duty to restore the Leased Property was limited by the narrow scope of its obligations under the Restoration Clause and by the breadth of the exception for normal wear. *See Grand Acadian, Inc. v. United States (2011 Summary Judgment Opinion or 2011 SJ Op.)*, 97 Fed. Cl. 483, 484, 491 (2011). The court examined interpretations of the term

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<sup>12</sup>In its briefing on the parties’ cross motions for summary judgment, Grand Acadian relied upon certain statements made by Mr. McConnaughay in an affidavit. *2009 SJ Op.*, 87 Fed. Cl. at 204. Noting that Mr. McConnaughay had provided contradictory testimony in a deposition and that plaintiff had failed to explain discrepancy, the court disregarded Mr. McConnaughay’s affidavit. *Id.* at 203-07. Whether intentionally or unintentionally, Mr. McConnaughay has continued to be a source of inconsistent and inaccurate information, both to those sent to evaluate the Leased Property, see *infra* Part III.D.5 (discussing Mr. McConnaughay’s representation to Freese & Nichols personnel that the Leased Property and Non-Leased Property had been modified in the same manner before Fluor’s arrival), and to the court, see *infra* n.38 (discussing Mr. McConnaughay’s testimony that Grand Acadian dug a drainage trench between the Leased Property and a road that Grand Acadian built on the Non-Leased Property).

“normal wear” in federal caselaw and concluded that “[r]emoving trees from a property when necessary to perform the construction for which the property was leased is normal wear.” Id. at 492-95. Accordingly, the court granted the government’s motion for summary judgment to the extent it concerned the government’s duty to replace the trees that were standing on the Leased Property at the beginning of the Lease term. See id. at 495.

The court otherwise denied the government’s motion, finding that genuine issues of material fact remained both as to the amount of damage, if any, done by the government to the Leased Property and as to “the extent of normal wear that would be expected from this type of construction project, including any amount of additional wear that could be expected as a result of the haste with which the housing was to be constructed in the wake of the hurricanes.” Id. at 494-95. The court found unpersuasive defendant’s argument that certain drainage structures constructed by the government--but not filled before the end of the Lease term--constituted normal wear. Id. at 492-94; cf. infra Part III.D.1 (describing construction of the East Ditch, the South Ditch and the retention pond).

The court instead found as a matter of law that “planned additions, improvements and alterations are not themselves normal wear” under the Lease and that the government was required to fill and grade the drainage structures at Grand Acadian’s election. 2011 SJ Op., 97 Fed. Cl. at 493-94. But see infra Part IV.B (finding that, because previously unavailable evidence presented at trial establishes that the retention pond, the East Ditch and the unfilled portions of the South Ditch were left in place at the recommendation of state regulators to control stormwater, the Lease did not require the government to remove them). The court found that “[t]he issues remaining for trial include the condition of the Property both at the commencement of the Lease and the termination of the Lease and the cost to remove any additions and improvements, repair any alterations and restore the Property to its pre-Lease condition, ‘normal wear excepted.’” 2011 SJ Op., 97 Fed. Cl. at 500.

## II. Legal Standards

### A. Breach of Contract

“It is well settled that contracts to which the government is a party--and though a lease may concern and convey a property interest it is also very much a contract--are normally governed by federal law, not by the law of the state where they are made or performed.” Prudential Ins. Co. of Am. v. United States, 801 F.2d 1295, 1298 (Fed. Cir. 1986). Further to the foregoing, the Lease states, “This lease shall be governed by Federal law.” JX 31 (General Clauses) ¶ 15; see also infra Part III.B.3 (describing the Lease).

“To recover for breach of contract, a party must allege and establish: (1) a valid contract between the parties, (2) an obligation or duty arising out of the contract, (3) a breach of that duty, and (4) damages caused by the breach.” San Carlos Irrigation & Drainage Dist. v. United States, 877 F.2d 957, 959 (Fed. Cir. 1989). This Opinion addresses whether the government breached its obligations under the Restoration Clause of the Lease. See 2011 SJ Op., 97 Fed. Cl. at 500 (“The issues remaining for trial include the condition of the Property both at the commencement of the Lease and the termination of the Lease and the cost to remove any additions and improvements, repair any alterations and restore the Property to its pre-Lease condition, ‘normal wear excepted.’”).

## B. Normal Wear

The court analyzed the application of the term “normal wear” in federal caselaw in its 2011 Summary Judgment Opinion. See generally 2011 SJ Op., 97 Fed. Cl. at 489-91, 494-95. Damage to a property that necessarily results from the purposes for which the property was leased is normal wear. See Mount Manresa v. United States, 70 Ct. Cl. 144, 150 (1930) (stating that damage to a property that was necessary “for the proper utilization of the premises for the purposes for which they were leased” did not violate an obligation to return the property in as good condition as when received, “reasonable wear and tear, and damages by the elements excepted”). “Whatever damages would necessarily result from a use for the same purpose by a good tenant must fall upon the lessor.” United States v. Bostwick, 94 U.S. 53, 66 (1876).

Accordingly, the specific purpose for which a property is leased is central to the determination of what constitutes normal wear. See Riverside Military Acad. v. United States (Riverside), 122 Ct. Cl. 756, 783 (1952) (“There would necessarily have been considerable wear and tear and essential repairs to the premises of [a boys’] school[,] . . . [which] is not exactly a lace-curtain affair.”); accord 49 Am. Jur. 2d Landlord and Tenant § 743 (2012) (“In determining what constitutes necessary wear and tear in a particular case, it is useful to consider the character of the specific rights granted in the lease; the lessor may be considered to have given his assent to the wear and tear normally involved with exercising the rights granted.”).

Where a lease does not require the lessee to remedy normal wear, the lessee “is required to make good any loss or damage resulting from a want of reasonable care of the property in its use.” Mount Manresa, 70 Ct. Cl. at 149; see also Davenport v. United States, 26 Ct. Cl. 338, 344 (1891) (distinguishing between “repairs which would have been needed because of the ordinary wear and tear and those needed because of improper use by the defendants”). Whether sufficient precautions were taken to protect a leased property is therefore a relevant consideration. Cf. Consol. Laundries Corp. v. United States, 128 Ct. Cl. 675, 680, 121 F. Supp. 516, 518-19 (1954) (concluding, given the government’s expenditure of \$18,000 to “condition[]” leased washing machines and its employment of a full-time maintenance crew on the leased premises, that any damage to the washing machines constituted ordinary wear and tear).

Mixing significant quantities of construction materials into the soil of a property has been held not to be normal wear. See, e.g., Mount Manresa, 70 Ct. Cl. at 150 (finding that damage that included mixing building construction materials such as “concrete, wood lath, paper, joists, and various kinds of timber, tar paper and other roofing material, galvanized iron, [and] terra cotta” into the soil was not “reasonable wear and tear”); San Nicolas v. United States, 223 Ct. Cl. 223, 227-29, 617 F.2d 246, 248-49 (1980) (per curiam) (finding that merely spreading a layer of sand and crushed coral over a layer of dumped “construction spoil and debris” between one and six feet thick did not satisfy a lease requirement to “restore the premises to the same conditions as that existing at the time of entering this lease, reasonable wear and tear by the elements excepted” (quotation marks omitted)).

### C. Fraud and False Claims

#### 1. False Claims Act (FCA)

The FCA<sup>13</sup> provides, in relevant part, that “any person who . . . knowingly presents, or causes to be presented, a false or fraudulent claim for payment or approval,” is liable for a civil penalty “of not less than \$[5,500]<sup>14</sup> and not more than \$[11,000] . . . , plus 3 times the amount of damages which the Government sustains because of the act of that person.” 31 U.S.C. § 3729(a)(1); cf. 28 C.F.R. § 85.3(a)(9) (2011) (listing civil monetary penalties as adjusted for inflation).

In order to recover damages under the FCA, the government must establish that:

(1) the contractor presented or caused to be presented to an agent of the United States a claim for payment;

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<sup>13</sup>The False Claims Act (FCA) was amended on May 20, 2009. See Fraud Enforcement and Recovery Act of 2009, Pub. L. No. 111-21, sec. 4(a), 123 Stat. 1671, 1621 (to be codified at 31 U.S.C. § 3729). The amendments applicable to presentation of false or fraudulent claims “apply to conduct on or after the date of enactment.” Id. sec. 4(f). Because Grand Acadian submitted its certified claims to the government in 2006, see JS ¶¶ 61-62, 64, the amendments do not apply to the government’s counterclaim for presentation of a false or fraudulent claim.

<sup>14</sup>The FCA provides for a statutory penalty of “not less than \$5,000 and not more than \$10,000, as adjusted by the Federal Civil Penalties Inflation Adjustment Act of 1990.” 31 U.S.C. § 3729(a)(1) (2006). The Federal Civil Penalties Inflation Adjustment Act of 1990, Pub. L. No. 101-410, 104 Stat. 890, as amended by subsequent legislation, directs the head of each federal agency, at least once every four years, to “(1) by regulation adjust each civil monetary penalty provided by law within the jurisdiction of the Federal agency . . . ; and (2) publish each such regulation in the Federal Register.” 28 U.S.C. § 2461 note (2006). The civil monetary penalty associated with the FCA, as adjusted for inflation, is codified at 28 C.F.R. § 85.3(a)(9) (2011). See 28 C.F.R. § 85.3(a)(9).

- (2) the claim was false or fraudulent;
- (3) the contractor knew the claim was false or fraudulent; and
- (4) the United States suffered damages as a result of the false or fraudulent claim.

Young-Montenay, Inc. v. United States, 15 F.3d 1040, 1043 (Fed. Cir. 1994) (citing Miller v. United States, 550 F.2d 17, 23, 213 Ct. Cl. 59, 70 (1977)). If the government does not establish that it suffered damages as a result of a false claim, it may recover only the statutory penalty. See, e.g., Daewoo Eng'g and Const. Co. v. United States (Daewoo), 557 F.3d 1332, 1341 (Fed. Cir. 2009).

“‘Knowingly’ is defined as (1) ‘actual knowledge,’ (2) acting ‘in deliberate ignorance of the truth or falsity’ of information, or (3) acting ‘in reckless disregard of the truth or falsity’ of information; [in addition,] ‘no proof of specific intent to defraud is required.’” Daewoo, 557 F.3d at 1340 (quoting 31 U.S.C. § 3729(b)). “The government must prove the elements of the cause of action [under the FCA] by a preponderance of the evidence.” Commercial Contractors, Inc. v. United States, 154 F.3d 1357, 1362 (Fed. Cir. 1998) (citing 31 U.S.C. § 3731(c)).

## 2. Antifraud Provision of the Contract Disputes Act (CDA)

The CDA<sup>15</sup> provides, in relevant part:

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<sup>15</sup>Congress recently amended the Contract Disputes Act (CDA) and enacted it into positive law. See Act of Jan. 4, 2011, Pub. L. No. 111-350, 124 Stat. 3677 (the CDA amendment). The only effect of the CDA amendment as it relates to this case is the relocation of the provisions of the CDA from 41 U.S.C. §§ 601-13 (2006) to 41 U.S.C. §§ 7101-09. See id. §§ 7101-09.

“[T]he intent [of the CDA amendment] is to conform to the understood policy, intent, and purpose of Congress in the original enactments, with such amendments and corrections as will remove ambiguities, contradictions, and other imperfections . . . .” Id. sec. 2(b). Consistent with this goal, Congress did not change the substantive law of the CDA as it relates to this case. Compare 41 U.S.C. § 604 (2006) (“If a contractor is unable to support any part of his claim and it is determined that such inability is attributable to misrepresentation of fact or fraud on the part of the contractor, he shall be liable to the Government for an amount equal to such unsupported part of the claim in addition to all costs to the Government attributable to the cost of reviewing said part of his claim.”), with 41 U.S.C.A. § 7103(c)(2) (West 2012) (“If a contractor is unable to support any part of the contractor’s claim and it is determined that the inability is attributable to a misrepresentation of fact or fraud by the contractor, then the contractor is liable to the Federal Government for an amount equal to the unsupported part of the claim plus all of the Federal Government’s costs attributable to reviewing the unsupported part of the claim.”).

If a contractor is unable to support any part of the contractor's claim and it is determined that the inability is attributable to a misrepresentation of fact or fraud by the contractor, then the contractor is liable to the Federal Government for an amount equal to the unsupported part of the claim plus all of the Federal Government's costs attributable to reviewing the unsupported part of the claim.

41 U.S.C.A. § 7103(c)(2). This provision is often referred to as "the antifraud provision of the [CDA]." See, e.g., Daewoo, 557 F.3d at 1335.

"The term 'misrepresentation of fact' means a false statement of substantive fact, or conduct that leads to a belief of a substantive fact material to proper understanding of the matter in hand, made with intent to deceive or mislead." 41 U.S.C.A. § 7101(9). "The government must establish this falsity and intent by a preponderance of the evidence." Daewoo, 557 F.3d at 1335 (citing Commercial Contractors, 154 F.3d at 1362).

### 3. Forfeiture of Fraudulent Claims Act (FFCA)

The FFCA provides that "[a] claim against the United States shall be forfeited to the United States by any person who corruptly practices or attempts to practice any fraud against the United States in the proof, statement, establishment, or allowance thereof." 28 U.S.C. § 2514. "In such cases the United States Court of Federal Claims shall specifically find such fraud or attempt and render judgment of forfeiture." Id. A plea seeking forfeiture of a contractor's claims pursuant to the FFCA is often referred to as a "special plea in fraud." See, e.g., Daewoo, 557 F.3d at 1335.

"To prevail under [the FFCA], the government must 'establish by clear and convincing evidence that the contractor knew that its submitted claims were false, and that it intended to defraud the government by submitting those claims.'" Daewoo, 557 F.3d at 1341 (quoting Commercial Contractors, 154 F.3d at 1362). "Proof of negligence or ineptitude does not meet the standard of clear and convincing evidence; rather, '[a]n intent to deceive the Government must be proved.'" Alcatec, LLC v. United States, 100 Fed. Cl. 502, 517 (2011) (alteration in original) (quoting Miller, 213 Ct. Cl. at 68, 550 F.2d at 22). "The court may, however, consider circumstantial evidence in making its determination." Id. (citing Kamen Soap Prods. Co. v. United States, 129 Ct. Cl. 619, 642, 124 F. Supp. 608, 620 (1954)).

"Unlike the antifraud provision of the Contract Disputes Act, under which a contractor may incur liability only for the unsupported part of a claim, forfeiture under 28 U.S.C. § 2514 requires only part of the claim to be fraudulent." Daewoo, 557 F.3d at 1341 (internal citation omitted); see, e.g., Young-Montenay, 15 F.3d at 1042-43 (affirming opinion of trial court finding that a contractor's entire claim was forfeited

pursuant to the FFCA but awarding treble damages under the FCA only for the unsupported portion of the claim).

### III. Overview of Evidence

The issues remaining to be resolved at trial were: (1) the condition of the soil on the Leased Property at the beginning and end of the Lease term, (2) whether the condition of the soil on the Leased Property at the beginning and at the end of the Lease term differed such that the Lease required that the soil be replaced or otherwise restored by the government at the end of the Lease term, (3) whether defendant is responsible for the cost of filling the retention pond, the East Ditch and the remaining portions of the South Ditch<sup>16</sup> and (4) the merits of the government's counterclaims.

Grand Acadian's view of the evidence presented at trial and described in this Part III is that, at the beginning of the Lease term, the soil on the Leased Property was suitable for construction without bringing additional soil from offsite. See Pl.'s Br. 1-7; Pl.'s Resp. 1-7, 15-16. Grand Acadian contends that, during the first four days of construction, the government's contractor, Fluor, rendered the soil on the Leased Property unusable by beginning construction with heavy equipment while the ground was still wet. See Pl.'s Br. 7-18; Pl.'s Resp. 2, 7-13. Grand Acadian contends that Fluor's construction activities pushed organic matter into the soil and mixed the silt and clay layers. See Pl.'s Br. 7-18; Pl.'s Resp. 2, 7-13. Based upon the foregoing propositions, Grand Acadian contends that, to restore the Leased Property to its pre-Lease condition, two and one-half feet of soil must be removed and replaced with structural fill. See Pl.'s Br. 20-21 (arguing that expert testimony presented at trial proved that soil to a depth of thirty inches--two and one-half feet--requires replacement).

The government's view of the evidence presented at trial and described in this Part III is that Fluor improved the soil on the Leased Property by removing stumps, tree limbs and other organic debris, with the result that the soil on the Leased Property contains less organic material than occurs in nature. See Def.'s Br. 49; Def.'s Resp. 2, 21-22. The government also contends that Grand Acadian has failed to demonstrate any increase in organic content or mixing of the soil layers caused by the government. Def.'s Br. 46-51; Def.'s Resp. 2, 19-23. The government notes that Grand Acadian did not measure the amount of organic material existing naturally in the soil or the amount of organic material mixed into the soil by Grand Acadian's clearing and logging activities before the Lease

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<sup>16</sup>See supra Part I (describing the court's holding that "planned additions, improvements and alterations are not themselves normal wear," under the Lease and that the government was required to fill and grade these structures at Grand Acadian's election). But see infra Part IV.B (finding that, because previously unavailable evidence presented at trial establishes that the retention pond, the East Ditch and the unfilled portions of the South Ditch were left in place, at the recommendation of state regulators, to control stormwater, the government was not required by the Lease to remove them).

term. Def.'s Br. 48-50; Def.'s Resp. 7-8. The government also notes that Grand Acadian did not measure the clay content of the silty soil on the Leased Property at any point to determine the degree to which the soil types had been mixed. Def.'s Br. 50-51; Def.'s Resp. 22-23. The government acknowledges that "some mixing of surface debris into the soil is a normal incident to the use of heavy construction equipment," but contends that "Fluor exercised ordinary care in all of its work" and that any effect of Fluor's activities on the Leased Property is normal wear. Def.'s Br. 49.

A. Grand Acadian's Soil Sampling, Clearing and Logging Activities, and Construction Before the Arrival of the Government's Contractors

In December 2004 Grand Acadian purchased a sixty-acre<sup>17</sup> tract of undeveloped woodland in Sulphur, Louisiana. JS ¶ 1. The sixty-acre property is bordered along its northern edge by Mosswood Road. See JX 17 (Sept. 31, 2005 Aerial Photo). A bayou abuts its southeast corner. See id. A water tower stands just west of the northwest corner of the sixty-acre property and is visible in many of the photographs presented at trial. See, e.g., JX 54 (Mar. 2006 Aerial Photo); JX 35 (Dec. 29, 2005 Photos) 8856. "In 2004, local parish officials zoned and approved Grand Acadian's property for development and use as a[n] [RV] park." JS ¶ 2.

Because the issues to be resolved at trial included "the condition of the [Leased] Property both at the commencement of the Lease and the termination of the Lease and the cost to . . . restore the [Leased] Property to its pre-Lease condition, 'normal wear excepted,'" 2011 SJ Op., 97 Fed. Cl. at 500, much of the evidence presented at trial concerned the condition of the Leased Property and its suitability for construction at the beginning of the Lease term.

Before Grand Acadian began to develop its wooded, sixty-acre property, Grand Acadian applied for and received a wetlands determination from the United States Army Corps of Engineers (Corps), see infra Part III.A.1, obtained a report of several composited soil borings and received preliminary engineering recommendations concerning preparation for construction of roads, parking lots and RV parking pads, see infra Parts III.A.2-3.

Grand Acadian then began to develop its sixty-acre property by clearing and logging it, a process that changed the sixty-acre property and its soil significantly. See infra Part III.A.4. After the government decided to lease the western half of Grand Acadian's property, Grand Acadian continued to develop the eastern half of its property by removing significant amounts of debris, including debris that Grand Acadian removed

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<sup>17</sup>The dimensions of Grand Acadian's property are approximately 1,325 feet from east to west and 1,975 feet from north to south. See JX 4 (Wetlands Determination) 2.

from below the surface of the soil using a root rake.<sup>18</sup> See infra Part III.A.5.a. Grand Acadian also built a road along the western edge of the Non-Leased Property, which blocked drainage and--after the Lease commenced but before the government's contractors arrived to begin work--caused standing water to pool on the Leased Property. See infra Part III.A.5.b.

#### 1. Wetlands Determination and Clean Water Act Permit

Prior to September 2004, before purchasing the sixty-acre property, see JS ¶ 1, Grand Acadian filed a wetlands determination request with the Corps. See Tr. 1657:6-10 (Courret); JX 2 (Determination Request) 11.<sup>19</sup> A wetlands determination is a decision by the Corps as to whether a property contains wetlands within the Corps' jurisdiction; construction on such wetlands requires a permit. See Tr. 1656:6-20 (Courret).

Grand Acadian's wetlands determination request was prepared by Shawn Mays, who identified himself as an "Engineering Specialist." JX 2 (Determination Request) 11. Mr. Gary Courret, a botanist employed by the Corps, Tr. 1655:16-1656:2 (Courret), reviewed Grand Acadian's wetlands determination request and conducted a site visit on September 21, 2004, see id. at 1657:6-1659:21. Mr. Courret testified that Mr. Mays, who did not testify at trial, would have, in preparing Grand Acadian's wetlands determination request, walked across the sixty-acre property several times, filling out a standardized wetlands determination form at each of forty-three data points. See id. at 1667:21-1669:7; cf. JX 2 (Determination Request) 12 (map of Grand Acadian's property showing Mr. Mays' route and the location of the data points).

In his trial testimony concerning the forms Grand Acadian submitted, Mr. Courret explained that wetlands within the jurisdiction of the Corps are defined by three characteristics: hydrophytic vegetation, hydric soils and wetland hydrology, Tr. 1656:8-11 (Courret); see also JX 2 (Determination Request) 33-34 (containing sections labeled "Vegetation," "Hydrology" and "Soils," as well as a section labeled "Wetland Determination" that summarizes whether hydrophytic vegetation, hydric soils and wetland hydrology were present). Mr. Courret explained that, in the context of a determination request, "[h]ydrophytic vegetation is plants that are adapted to saturated conditions," that "[h]ydric soils are soils that are saturated for at least 5 percent of the growing season or long enough to create anaerobic conditions within [the] soil," and that "[w]etland hydrology is at least two weeks of saturation, ponding or flooding." Tr. 1658:5-1659:3 (Courret).

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<sup>18</sup>A root rake is a piece of equipment attached to the blade of a bulldozer to collect organic debris from the surface and/or subsurface of the soil. See infra n.66.

<sup>19</sup>The Bates numbers at the bottom of each page of Grand Acadian's wetlands determination request begin with the number ten. See JX 2 (Determination Request) 10.

Grand Acadian's wetlands determination documents whether Mr. Mays found each characteristic at each data point and, as to each data point, whether it was or was not within a wetland. See, e.g., JX 2 (Determination Request) 33-34 (describing data point eleven). For instance, at one data point that Mr. Mays found to be in a wetland, Mr. Mays found wetland hydrology: the soils were saturated with water beginning at six inches below the surface and oxidized root channels were present in the top twelve inches of soil, see id., indicating that plants were adapted to saturated conditions, see Tr. 1671:9-19 (Couret). At this data point, Mr. Mays also found hydrophytic vegetation and hydric soils. See JX 2 (Determination Request) 34.

The Corps issued a wetlands determination, finding that Grand Acadian's sixty-acre property contained wetlands within the Corps' jurisdiction. JX 4 (Wetlands Determination) 1.

The Corps determined that a rectangular area measuring 900 feet from east to west and 1,275 feet from north to south, located in the northwest corner of Grand Acadian's property, contained 42% wetlands. See id. at 1-2. The Corps determined that the remaining area of Grand Acadian's property contained 23% wetlands.<sup>20</sup> See id. Mr. Couret testified that approximately the northern two-thirds of the Leased Property are within the wetter area containing 42% wetlands. See Tr. 1665:20-25 (Couret). The Leased Property includes the majority of the wetlands identified in the wetlands determination. Compare JX 4 (Wetlands Determination) 1 (stating that "[p]art of the property is 42% wetland and part of the property is 23% wetland"), with id. at 2 (map showing that most of the area that is 42% wetlands is located in the northwest corner of Grand Acadian's property, within the Leased Property).

The Corps stated that "[t]he wetlands and nonwetlands are so intermingled that a detailed map cannot be completed without a survey." Id. at 1. Asked to explain this statement at trial, Mr. Couret testified that "[t]he wetlands or nonwetlands in this particular soil complex are intermingled in such a way that the nonwetlands tended to be moundy and the intermound areas tend to be wetland." Tr. 1666:20-25 (Couret). The Corps advised Grand Acadian that a "permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into the wetlands on this property." JX 4 (Wetlands Determination) 1.

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<sup>20</sup>The position of the two areas is shown on a wetlands determination map, see JX 4 (Wetlands Determination) 2, derived from a map created by Mr. Shawn Mays, see Tr. 1664:24-1665:5 (Couret). After visiting Grand Acadian's property, see id. at 1659:7-21, Mr. Gary Couret called Mr. Mays and both agreed that Mr. Mays had drawn the features of the map related to wetlands upside down, see id. at 1697:18-24. Mr. Couret "changed the north arrow 180 degrees" before including the map in the Corps' wetlands determination. Id. at 1665:10-12; cf. id. at 1664:4-23 (agreeing that the corrected map "accurately reflect[s]" the location of wetlands on Grand Acadian's property).

Grand Acadian's permit application is not in evidence; however, the trial record does contain the July 2005 Corps memorandum in which the application was evaluated and granted. See JS ¶ 6; JX 7 (Clean Water Act Permit Memo) 1220-43. The Corps' memorandum made several observations about the soil types (silt loams) present on Grand Acadian's property and their drainage characteristics. The memorandum stated that "[a]ccording to [the] Calcasieu Parish soil survey, [Grand Acadian's property] is located on two soil complexes: Guyton-Messer and Kinder-Messer. Both silt loams are listed as hydric soils." JX 7 (Clean Water Act Permit Memo) 1222. A soil complex is a combination of two or more soil types. Cf. id. at 1222-23.

Describing Guyton and Kinder soils, the memorandum stated that "[w]ater and air move through [these soils] slowly. . . . Water runs off the surface slowly and stands in low places for short periods after heavy rain." Id. at 1222 (describing Guyton soils); see also id. at 1223 (stating same regarding Kinder soils). Guyton soil "is subject to short periods of flooding during unusually severe rainstorms" and "[t]he surface layer of this soil remains wet for long periods after a heavy rain." Id. at 1222. Kinder soil "dries slowly after a heavy rain." Id. at 1223. In contrast, Messer soil is "moderately well drained." Id. at 1222. At trial, defendant's expert witness in geotechnical engineering, Mr. Jesse L. Arnold, testified that 80-90% of the Leased Property is made up of the "[v]ery poorly drained" Guyton-Messer soil complex. Tr. 3365:20-3366:10 (Arnold).

## 2. The First Summit Soil Boring Report/Mr. Hudson

Grand Acadian relies primarily on two witnesses, Mr. Edward Hudson and Mr. Ronald H. Jones, for its description of the Leased Property at the beginning of the Lease. See Pl.'s Br. 2-3; Pl.'s Resp. 1-3. Both witnesses prepared reports which address soil conditions prior to clearing and logging. See infra Parts III.A.2-4. One of the witnesses, Mr. Jones, plaintiff's expert witness in geotechnical engineering, had not then visited the Leased Property. See infra Part III.A.3.

"In June 2005, Grand Acadian commissioned a report from The Summit Group with an investigation of the near-surface soils existing at Grand Acadian's 60-acre property . . ." (the First Summit Report). JS ¶ 3; see also JX 5 (First Summit Report). The First Summit Report was prepared for no charge by Mr. Hudson, see Tr. 3243:23-3244:6 (Hudson),<sup>21</sup> a friend of Mr. McConnaughay, see id. at 3210:4-12, and the owner of the Summit Group, cf. id. at 3208:11-3209:1.

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<sup>21</sup>The court denied the proffer of Mr. Edward A. Hudson as an expert witness but permitted him to testify as a lay witness regarding his observations and the information he provided to plaintiff's expert witness in geotechnical engineering, Mr. Ronald H. Jones. See Tr. 3209:4-3215:13 (colloquy between Mr. Hudson, the court and counsel); cf. id. at 3220:8-22 (the court sustaining an objection to testimony by Mr. Hudson regarding the suitability of the soil on Grand Acadian's property to development). Accordingly, Mr. Hudson was permitted to explain the measurements he had included in his report, for instance, the depth of the stiff clay base on

The First Summit Report is the first assessment of the soil at the sixty-acre property for construction purposes and the only assessment undertaken before any clearing, logging and construction activity occurred. The Summit Group is not an engineering firm, id. at 3209:23-25, but serves as a data collection service for engineers at other firms, see id. at 3245:6-9; Tr. 3419:24 (Krielow) (describing the Summit Group as a “testing lab”); Tr. 884:9-14 (Jones) (stating that for ten years, Mr. Hudson has served as Mr. Jones’s subcontractor for field investigation and geotechnical testing).

According to Mr. Hudson, the First Summit Report provides “a general review of the site conditions” at the time it was written. Tr. 3215:22-3216:1 (Hudson). The report consists of a one-page narrative description of Mr. Hudson’s observations and a table summarizing the results of laboratory tests conducted on three composited soil borings. See JX 5 (First Summit Report) 2601-02.

The narrative portion of the First Summit Report states, without elaboration or explanation, that “[t]he near surface soils, varying [in] depth from 15 to 24 inches, consist of high silt content and low Plasticity Index (PI) soils.” JX 5 (First Summit Report) 2601. The First Summit Report also states that “[t]he soil in this depth range is generally suitable for cement treatment, but would probably not meet the [Louisiana Department of Transportation and Development] specification[s] due to the high silt content. This soil type is used for cement treatment on local projects.” Id.

The First Summit Report does not explain how Mr. Hudson estimated that the soils with high silt content vary in depth between fifteen and twenty-four inches or the degree of confidence with which Mr. Hudson stated this conclusion. See id. On cross-examination, Mr. Hudson agreed that whether soil is actually suitable for use in soil cement<sup>22</sup> is an engineering judgment. Tr. 3270:3-17 (Hudson); cf. JX 5 (First Summit Report) 2601 (stating that the table of data included in the report merely “reflects the general parameters of the soils encountered”).

The First Summit Report states that “[t]he depth of the cement-treatable soil is excessive and removal of approximately 16 inches would be suggested and normal road

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the Leased Property. See, e.g., Tr. 3218:18-3219:7 (Hudson). Similarly, over plaintiff’s objection, Mr. Clint McDowell was permitted to testify. See Tr. 2816:13-2817:5 (colloquy between Mr. Hudson, the court and counsel). Where interpretation of Mr. Hudson and Mr. McDowell’s observations requires “scientific, technical, or other specialized knowledge,” see Fed. R. Evid. 701(c), for example, to determine construction procedures necessary to prepare the Leased Property for construction or the suitability of different soil types for use in construction, the court relies upon the testimony of the witnesses qualified by the court as experts.

<sup>22</sup>Soil cement is a mixture of soil and cement, poured over structural fill to create a base for pavement. See Tr. 895:11-24 (Jones); infra Part III.A.3 (discussing the recommendations Grand Acadian received for the construction of paved areas).

construction practice. The remaining 8 inches would be cement or flyash treated,” placed over structural fill and topped with asphalt or concrete to form roads. JX 5 (First Summit Report) 2601. The report notes that suitable structural fill could be obtained from areas where Grand Acadian intended to dig ponds as it developed its RV park. Id. Mr. Hudson conducted no testing of the quantity of organic material present in the samples.<sup>23</sup> Tr. 3254:5-9 (Hudson).

Attached to the narrative portion of the First Summit Report is a table containing laboratory test data for three soil borings. See JX 5 (First Summit Report) 2602. The first soil boring is described as containing “Brown Silt” between zero and fifteen inches of depth and “Tan & Brown Silty Clay” between twenty-six and thirty-four inches.<sup>24</sup> Id. The table does not describe the soil between fifteen and twenty-six inches or state at what depth the transition between “Brown Silt” and “Tan & Brown Silty Clay” occurs. Id. The second soil boring is described as containing “Tan & Brown Silty Clay” between twenty-six and thirty-four inches. Id. The third boring is described as containing “Tan & Red Clay” between thirty-four and fifty-five inches. Id. The table does not characterize the upper twenty-six inches of soil at the second boring location or the upper thirty-four inches of soil at the third boring location; nor does the table state the depth at which the transition between any silty surface layer and the clay described in the table occurs at either the second or the third boring locations. See id.

Mr. Hudson testified that the soil samples analyzed in the First Summit Report were composited samples. Tr. 3216:18-3217:4 (Hudson). Composited samples are samples from “a multitude of hand augur borings,” id. at 3217:5-8, that Mr. Hudson collected in the field and, based on visual classification, determined to be consistent with the three soil samples taken for laboratory testing, id. at 3216:18-3217:14. The purpose of using composited samples is “to reduce the time and effort for the laboratory work and the people involved” and to “explain . . . to the engineer that this site is consistent without giving him a whole bunch of data.” Id. at 3276:4-9.

Mr. Hudson’s method of collecting the composited samples was unstructured and poorly documented.<sup>25</sup> Although geotechnical engineers develop boring plans to guide

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<sup>23</sup>To determine the organic content of soil through laboratory testing, a soil sample is placed in a furnace to burn off the organic material. See Tr. 3356:3-3357:23 (Arnold). The sample is weighed before and after it is placed in the furnace to determine the change in weight. See id.

<sup>24</sup>The table also describes the liquid limit, plastic limit and plasticity index of each sample. See JX 5 (First Summit Report) 2602.

<sup>25</sup>In contrast, during the government’s construction efforts, Site Engineering, Inc. (SEI) collected thirty soil borings on the Leased Property at regular intervals in a grid pattern and subjected sixteen of these soil borings to laboratory analysis, see infra Part III.D.2 (describing

sampling based factors such as “the location, the geology, the expected construction, the type of facility, [and the] expected cost of the project,” Tr. 913:22-914:3 (Jones), no engineer created a boring plan to guide Mr. Hudson’s work, cf. id. at 914:4-6 (Mr. Jones testifying that he did not create a boring plan for Mr. Hudson). Mr. Hudson did not describe any methodology that guided his collection of additional samples. Mr. Hudson was uncertain how many additional samples he had collected, estimating on direct examination that he had collected between thirty and forty soil samples, Tr. 3216:23-24 (Hudson), “[p]robably 15 or 20” of which were on the Leased Property, id. at 3230:5-8, an estimate that contradicted Mr. Hudson’s statement in a 2008 deposition that he had had only collected a total of “[p]robably 15 to 30” samples, a range he described in the deposition as “[j]ust a good guess,” id. at 3251:20-24 (acknowledging prior deposition testimony). Mr. Jones, plaintiff’s expert witness in geotechnical engineering, believed that Mr. Hudson collected even fewer samples, stating, “I can’t remember, but I think he made about 15 borings.” Tr. 878:12-14 (Jones). Mr. Jones also testified that three soil borings are insufficient to support an engineering opinion concerning soil conditions across a sixty-acre site. Id. at 913:12-18.

“In civil design work that involves soils information, [the location of soil borings is] cardinal information. It’s absolutely essential that you know where [the soils information] came from.” Tr. 3363:10-12 (Arnold). Mr. Hudson agreed that, although he attempted to collect samples from all parts of the sixty-acre property for consistency, Tr. 3217:22-3218:3 (Hudson), he had no record of the locations of his June 2005 soil borings and could not testify that any of the three soil borings subjected to laboratory testing were conducted on the portion of Grand Acadian’s property later leased to the government, id. at 3249:4-3253:12.

Mr. Hudson testified that creating composited samples is “fairly standard” for a site of the size of Grand Acadian’s property, id. at 3217:5-17, but believed that the size of Grand Acadian’s property was forty acres rather than sixty, see id. at 3217:18-21, and that he had composited six samples for laboratory testing rather than three, see id. at 3249:18-22.

Because of the imprecision with which Mr. Hudson collected, analyzed and described his soil borings and because Mr. Hudson was uncertain whether any of the three soil borings sent for laboratory analysis were collected on the Leased Property, the First Summit Report provides at best only a suggestive indication of the sediment types present on the Leased Property in June 2005 and the depths at which they occurred before any clearing, logging or construction efforts began on the Leased Property.

### 3. The CBK Engineering Report/Mr. Jones

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the SEI Report), an approach that Mr. McDowell agreed was “standard practice,” Tr. 2845:22-2846:4 (McDowell).

“In July 2005, Grand Acadian commissioned a report from CBK Soils Engineering [(CBK)] with recommendations for developing Grand Acadian’s 60-acre property as an RV park” (the CBK Report). JS ¶ 4; see also JX 10 (CBK Report). Grand Acadian hired CBK “to do engineering recommendations for the roadways, parking lots and RV pads for [its] development.” Tr. 877:1-4 (Jones). Mr. Jones, plaintiff’s expert witness in geotechnical engineering and the owner of CBK, see id. at 874:22-24, drafted the CBK Report, see JX 10 (CBK Report) 5.

As the basis for his report, Mr. Jones was provided with preliminary construction plans, see Tr. 887:16-18 (Jones), and the soils data collected by Mr. Hudson,<sup>26</sup> see id. at 877:5-9; JX 10 (CBK Report) 6 (reproducing the table of test data appearing in the First Summit Report); JX 10 (CBK Report) 1 (“We have reviewed your preliminary site plans and the soils data provided by others.”). Mr. Jones did not visit the site himself. Tr. 909:5-14 (Jones). Mr. Jones explained in the CBK Report that, although the soil borings conducted by Mr. Hudson were consistent with other soil borings he had seen from the area, see id. at 891:13-15, variations can be expected in subsurface conditions,<sup>27</sup> JX 10 (CBK Report) 2. Mr. Jones further cautioned:

Should conditions be encountered during construction that are different than those indicated by the soil borings made for this study, this firm should be contacted immediately for an assessment and reevaluation of the recommendations provided herein.

Id.

The CBK Report concluded that the silt soils between the surface and the clay layer on the Grand Acadian property would not provide sufficient support for RV park improvements:

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<sup>26</sup>Because Mr. Jones did not mention Grand Acadian’s wetlands determination in the CBK Report or in his trial testimony, there is no evidence that Mr. Jones was aware that Grand Acadian’s property contained wetlands or that Mr. Jones determined that the soil samples collected by Mr. Hudson were or were not representative of wetland portions of Grand Acadian’s property.

<sup>27</sup>Mr. Jones testified that there is greater variation in subsurface conditions when the soil has been disturbed. See Tr. 891:19-893:10, 924:13-20 (Jones). Because the soil layers present on the Leased Property are “flood plain deposits,” the characteristics of each layer are relatively predictable and can be confidently incorporated into design recommendations. Id. at 892:8-893:1. By contrast, when the clay subgrade has been disturbed, its characteristics are less predictable, which undermines the confidence with which an engineer can make design recommendations. See id. at 893:2-5.

The silt soils present in the upper 2 ± feet across the site are quite moisture sensitive. This material may appear firm when relatively dry, but becomes soft and unstable when wet. Achieving proper compaction of base materials and asphaltic concrete pavement over the silt is rarely possible. In-place stabilization of the upper portions of the silt is sometimes used to provide the “working table” needed to properly construct the base and pavement. However, for this project, where there will be an abundance of fill material available from excavation of the lakes, we recommend that the silt soils simply be removed and replaced with structural fill. Much of the near surface soils below the silts appears suitable for use as structural fill material.

Id.

To construct roads and parking lots, the CBK Report recommended that--after sufficient structural fill had been placed on top of the clay subgrade to reach to an appropriate elevation--a road base of soil cement at least eight inches thick be created and covered with a layer of asphaltic concrete at least two inches thick. See id. at 3-5. To construct RV parking pads, the CBK Report recommended that--after sufficient structural fill had been placed on top of the clay subgrade to reach an appropriate elevation--a road base of soil cement at least six inches thick be created and covered with a layer of Portland cement concrete at least six inches thick. See id.

At trial, Mr. Jones explained that the upper portion of the silty soils could be expected to contain organic matter such as grass and roots and could be used for non-structural purposes such as landscaping. See Tr. 895:2-24 (Jones); id. at 903:20-22 (“[I]t’s implied that you’re going to remove some [of the silty soil] that’s not suitable because it’s going to have organic content.”); cf. Tr. 1357:21-1358:2 (Prochaska) (stating that the CBK Report called for using excavated material for “for general fill outside the structural areas”). Organic matter, when it decomposes, can create “soft spots,” or cause pavement or structures built on top of it to “fail.” Tr. 687:17-688:2 (Bosecker). Mr. Jones testified that he expected there to be approximately sixteen inches of this “excess silt material,” Tr. 936:7-13 (Jones), which could “simply be pushed aside,” id. at 937:1-4.

As to whether any portion of the 2 ± feet of silty soil could be used in combination with other materials to make soil cement to support improvements, Mr. Jones testified that “[o]nce you get to a certain elevation, the bottom portion of that material, the 16- to 24-inch, for example, depth range, many times that material is suitable to be used” in soil cement.<sup>28</sup> Id. at 895:14-18; see also id. at 898:4-13 (discussing collection of silty

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<sup>28</sup>Mr. Jones testified that the organic content would be particularly high in approximately the uppermost eight inches of soil. See id. at 939:2-11, 903:23-904:6. At several points in his testimony, Mr. Jones appeared to suggest that any silty soil beneath eight inches in depth might be found suitable for use in construction. See, e.g., id. at 893:11-894:6.

material from “the 16- the 24-inch range” for use in soil cement); id. at 903:10-16 (agreeing that soil “[i]n the 16[-] to 24-inch range” would be suitable for use in soil cement).

Mr. Jones also testified that the clay content of the soil influences whether the soil is appropriate for use as soil cement to support improvements. Clay cannot be made into soil cement, id. at 896:21-23, but, in some cases, the mixing of a controlled volume of clay into the silty material can reduce the amount of cement--an expensive material--required to stabilize it, id. at 900:8-23. The CBK Report recommended that “[q]ualified geotechnical personnel should guide the selection of available site soils and mixing of materials to meet the specifications.” JX 10 (CBK Report) 4. Mr. Jones testified that construction contractors do not have the training required to identify appropriate sediments for use in soil cement, see Tr. 899:16-25 (Jones), and that the amount of sand, silt and clay in the soil is “mostly . . . defined by testing, laboratory testing,” id. at 924:25-926:2.

The sand content of silty soil also determines whether the soil is suitable for use in soil cement. Mr. Billy R. Prochaska, an expert witness in geotechnical engineering for plaintiff,<sup>29</sup> confirmed that laboratory testing is necessary to determine whether silty soil is suitable for use in soil cement. Tr. 1322:16-19 (Prochaska). Mr. Prochaska testified that, based on their soil classification, the silty soils on Grand Acadian’s property could contain between five and forty percent sand and “some of them would not meet the cement stabilization [requirements].” Id. at 1358:22-1359:4.

In a portion of Mr. Prochaska’s deposition read into the record at trial, Mr. Prochaska stated that, whenever silty soil from a construction site is used to create soil cement, samples must be collected from across the site to measure the silty soil’s grain size distribution--the proportions of silt, clay and sand--and organic content.<sup>30</sup> See id. at

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<sup>29</sup>Plaintiff presented the testimony of three expert witnesses in geotechnical engineering: Mr. Jones, Mr. Billy R. Prochaska and Mr. David Anthony Bosecker. See infra App. A (Table of Witnesses).

<sup>30</sup>At his deposition, Mr. Prochaska testified as follows regarding the testing of silty soil:

Question: So before you can use the silty soil you have to test it and see if it is indeed--if it contains too much of this deca[yed] organic material in addition to these big pieces that you’re talking about[?]

Answer: That’s right.

Question: And you would have to do that on any site that you were developing for a silty soil like this.

Answer: That’s right.

1323:18-1324:18 (acknowledging prior deposition testimony); cf. Tr. 3379:13-16 (Arnold) (“[T]hat’s why you run the tests. It’ll vary from point to point. Even in what appears to be an otherwise uniform stratum. If you were to run 10 tests, you would get different results.”); Tr. 3419:25-3420:2 (Krielow) (describing the CBK Report as a “cursory geotechnical analysis”).

While Mr. Jones expected that some of the silty material below sixteen inches of depth at Grand Acadian’s property may have been suitable for use in soil cement, laboratory testing--including grain size analysis and measurement of organic content--would have been necessary after construction had begun to determine what silty soil, if any, could be used. Neither Mr. Jones nor Mr. Hudson performed such tests. See Tr. 3265:21-3266:15 (Hudson) (agreeing that he did not perform laboratory testing of the organic content or the proportions of silt, clay and sand in his soil borings); cf. Tr. 883:23-884:1 (Jones) (agreeing that he did not “actually do the digging at the site” because he “had Mr. Hudson’s information”).

The CBK Report cautioned that, in preparation of the subgrade, “[p]articular attention should be paid to cleaning out stumpholes.” JX 10 (CBK Report) 3. Mr. Jones explained in testimony that tree roots extend to depths of four feet or more beneath the surface of the soil. See Tr. 939:16-23 (Jones). Mr. Jones testified that the likelihood of organic matter being mixed into the soil is greater when trees are knocked down, pushed into a pile and burned during clearing operations. See id. at 941:15-20. Cutting trees

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Question: And at times, the naturally occurring organic material in a site like this could potentially disqualify that silty soil as suitable for use with soil cement, isn’t that correct?

Answer: That’s correct. And not only that, . . . the proportions of silt, clay and sand in your soil have to be right for soil cement. So it would take a series of grain size analyses over the site to see if it’s generally acceptable.

Tr. 1323:18-1324:18 (Prochaska) (acknowledging prior deposition testimony). Before this portion of his deposition was read, Mr. Prochaska contradicted his deposition testimony, stating that the suitability of the soil types on Grand Acadian’s property had been determined by the United States Department of Agriculture (USDA) in a 1988 soil survey. Id. at 1316:9-25. The implication of Mr. Prochaska’s trial testimony (given prior to his review of his deposition testimony) was that no further testing of the soil on the Leased Property would be required before the silty soil was used for soil cement. Neither party specifically pointed out at trial the portions of the referenced USDA soil survey relied upon by Mr. Prochaska. See Tr. 3352:5-3356:2 (Arnold) (briefly discussing, at the only point during which the referenced USDA soil survey was specifically pointed out at trial, the drainage characteristics of Guyton-Messer and Kinder-Messer soil complexes); JX 53 (Excerpts from USDA Soil Survey). In light of the unexplained contradiction in Mr. Prochaska’s testimony, the court will discount Mr. Prochaska’s trial testimony that testing conducted by the USDA of the soil types present on Grand Acadian’s property makes further testing unnecessary.

down and then removing their stumps “is a little bit cleaner” because “they’re able to pull the stumps out and pull a lot of the root system with it.” Id. at 942:21-25. Filling stumpholes by pushing dirt into them is the “primar[y]” manner in which clearing can mix organic material into the soil. See id. at 942:12-21. The descriptions of Grand Acadian’s property provided by both Mr. Jones and Mr. Hudson referred to the period before the sixty-acre property was cleared and logged.

#### 4. Clearing, Logging and Hurricanes

Grand Acadian contracted with one company to clear and another to log its sixty-acre property. “Beginning in late July 2005 and continuing through approximately October 7, 2005, Grand Acadian’s contractor, AAA Construction [(AAA)], cleared underbrush and small trees approximately six inches or less in diameter from Grand Acadian’s 60-acre property using heavy construction equipment.” JS ¶ 7. At trial, Mr. Ronald Billedeaux, the owner of AAA, see Tr. 2960:2-12 (Billedeaux) summarized AAA’s work of clearing and “grubbing” Grand Acadian’s property as follows:

Q You did some clearing and grubbing for the Grand Acadian property?

A That’s correct.

Q Please describe what you mean by clearing[.]

A Basically, land that was grown with timber and shrubs and I just clear it, push[] it, burn it, clean it up.

Q You push down both trees and shrubs?

A Yes, sir.

Q What do you mean by grubbing?

A Grubbing is basically the underbrush and kind of pushing the branches and stuff along with the trees.

Q Pushing them to where, sir?

A We pile them up on the property.

Q Where on the property did you pile?

A Anywhere. We make different piles.

Id. at 2960:18-2961:8.

A little later, Mr. Billedeaux described clearing activities in more detail:

Q Now, sir, when your company is clearing trees, tell us about how that's done. How do you take a tree from a standing position to getting it to a pile on the side of the property or a pile within the property I believe you said? Just take us through that process if you would.

A Basically, depending on the size of the tree, sometime[s] they push out. We may corner around the tree with a dozer blade to kind of break the root system, and then push it down. If they're bigger, we can kind of corner or dig around them a little bit with a track hoe and reach a little higher to push them down.

And we can either push them or even pull them out with the track hoe. If they're small enough, we can just reach and grab and pull some of this stuff.

Q So when you're pushing a tree after you've knocked a tree down, is there a hole left?

A Yes.

Q Okay. And then how do you push the tree into the pile?

A With a dozer.

Q You just push it along the ground?

A Yes.

Q And when you're pulling a tree after it's been knocked over, you also use a bulldozer or a track hoe?

A We normally don't pull them; we push them.

Q Okay. Did you testify earlier you can pull?

A We can pull smaller trees, pull them out of the ground with the track hoe.

Q I see, and then you would still push those using the bulldozer?

A Then we would still push them.

Q Along the ground?

A That's correct[.]

Q Into piles?

A And sometimes we carry them if it's a little far.

Q Carry them by hand?

A No, with the track hoe

Q I see. What, if anything, did you do with those holes that were left when a tree was gone?

A We backfilled the holes.

Q What did you use to backfill the holes?

A Dozer.

Q I mean what kind [of dirt]? Was it dirt from the area or did you bring in something?

A Dirt from the area. That's correct.

Q Did you root rake that dirt before putting it into the hole?

A No.

Id. at 2978:24-2980:24.

Mr. Billedeaux was uncertain how many burn piles AAA created, but there were "definitely more than 10." Id. at 3000:12-3001:6. Using bulldozers, AAA dispersed the ash remaining from burn piles across the sixty-acre property. Id. at 3001:10-15.

The bulldozers that AAA uses vary in weight between approximately 20,000 and 40,000 pounds. See id. at 2962:24-2963:6. The track hoes that AAA uses vary in weight between approximately 25,000 and 40,000 pounds. See id. at 2984:17-19. The time sheets submitted by AAA indicate that, on almost every day that AAA worked on the Grand Acadian property, it used at least one bulldozer and one track hoe. See Pl.'s Ex. (PX) 200 (Time Sheets) passim. On many days, AAA used two track hoes or two bulldozers. See id. passim.<sup>31</sup>

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<sup>31</sup>Before reviewing the time sheets, Mr. Ronald Billedeaux recalled that AAA Construction (AAA) had used two or three bulldozers on Grand Acadian's property. See Tr. 2962:26-2963:2 (Billedeaux). Because Mr. Billedeaux stated "I don't remember" before making

Grand Acadian hired Kinder Timber Company, LLC (Kinder Timber) to log its sixty-acre property. See Tr. 3019:26-3020:8 (Wofford); cf. JX 13 (Timber Deed) (describing, among other things, the rates at which Grand Acadian would be compensated for different types of timber removed from the property). Mr. Leo Brent Wofford, a manager at Kinder Timber, see Tr. 3019:13-24 (Wofford), testified that Kinder Timber arrived after clearing operations had begun, see id. at 3038:5-12.

Mr. McConnaughay marked the trees that were to be left for aesthetic purposes rather than being logged or cleared.<sup>32</sup> See id. at 3036:8-16 (stating that Kinder Timber left trees flagged by Mr. McConnaughay); Tr. 102:24-103:4 (McConnaughay) (describing photos taken in August 2005 showing trees “marked to stay” with white ribbon); Tr. 3738:15-25 (McConnaughay) (describing a “bu[ffer] zone” of trees left on the Leased Property for aesthetic purposes). Kinder Timber began logging on September 5, 2005. See JX 14 (Landowner Payment Forms) 4947; cf. Tr. 3026:4-16 (Wofford) (stating that the column on each payment form labeled “Work Complete From” describes the date that Kinder Timber performed the work shown).

Kinder Timber used a mechanical shear to cut down trees. Tr. 3029:4-8 (Wofford). A mechanical shear is composed of mechanical arms that encircle the tree and a large circular saw that cuts it. Id. at 3029:18-26. Kinder Timber then used a skidder, a “four-wheel[ed] machine with a grapple on the back that goes around, picks the trees up and brings it back to . . . a loading site.” Id. at 3029:9-12. Mr. Wofford explained that the grapple lifted the cut end of the tree and then dragged the top of the tree and the limbs--about 75% of the tree’s mass--along the ground, see id. at 3030:5-3031:3, to a loading site on Grand Acadian’s property located just south of Mosswood Road, see id. at 3032:25-3033:11.

At the loading site, each tree was pulled through a de-limber and was loaded onto a truck with a hydraulic loader. See id. at 3029:13-17. The de-limber cuts off the limbs and the top portion of the tree, which is “not merchantable.” Id. at 3033:22-3034:9.

Using the skidder, Kinder Timber then dragged the limbs and other debris from the loading site to a burn pile closer to the middle of the sixty-acre property, id. at 3034:20-3035:7, tended by AAA, see id. at 3038:5-9 (stating that the contractor “doing

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this estimate, see id. at 2963:1, the court concludes that the timesheets provide a more accurate account of the number of bulldozers that AAA used.

<sup>32</sup>Mr. Billedeaux testified that Mr. McConnaughay marked the trees that AAA was to leave standing to be logged. Tr. 2961:18-23 (Billedeaux). Because other witnesses testified that trees marked by with a white ribbon were to remain for aesthetic purposes rather than be logged, see Tr. 3036:8-16 (Wofford); Tr. 102:25-103:4 (McConnaughay), and because the parties have stipulated that AAA cleared trees six inches in diameter and smaller, see JS ¶ 7, it appears that Mr. Billedeaux may have remembered this detail incorrectly.

the burning” was also “doing some clearing”); cf. Tr. 3000:8-3001:6 (Billedaux) (stating that AAA had burn piles on Grand Acadian’s property). Trees shorter than fifteen or sixteen feet--those approximately two or three inches in diameter--are not saleable and Kinder Timber either left them standing or ran over them when using the skidder to remove the larger trees. See Tr. 3036:17-3037:2 (Wofford).

During the nine days that Kinder Timber worked on Grand Acadian’s property--from September 5, 2005 to September 13, 2005--Kinder Timber removed 1,085 tons<sup>33</sup> of timber for which it paid Grand Acadian \$7,855.33. See JX 14 (Land Owner Payment Forms) 1-3. While working on Grand Acadian’s property, Kinder Timber used one skidder and one mechanical shear. See Tr. 3031:10-12 (Wofford). A mechanical shear weighs approximately 40,000 to 42,000 pounds and a skidder weighs approximately 30,000 pounds. Id. at 3031:4-17. In addition to the weight of the skidder itself, the skidder can “easily” carry a load of 3,000 pounds. Id. at 3032:22-24.

Skidders have rubber tires and sink more easily into the ground than track-mounted equipment, which spread their weight across the length of the tracks. See Tr. 1791:10-25 (Gourgues); Tr. 1738:17-24 (Beck) (stating that “a track machine kind of rides over debris” and “does not pack stuff like rubber tires and stuff do”). “[I]n wet conditions, . . . a ski[dd]er will gut the property up, literally gut it.” Tr. 3432:11-15 (Krielow). “If you have skidder ruts, then you have a situation where the organic [matter] is going to be pushed much deeper than if it were a dry site.” Id. at 3452:9-11.

The work performed by Kinder Timber and AAA left skidder ruts and ruts from tracked equipment in the soil across Grand Acadian’s sixty-acre property. See JS ¶ 36 (stating that, in December 2005, ruts were scattered across the property); Tr. 1784:17-21 (Gourgues) (stating that he observed “a lot of skidder ruts” when visiting the Leased Property on December 29, 2005); id. at 1792:18-1793:2 (stating that he observed “skidder ruts and impressions in the soil that [were] caused by rubber tire logging equipment” when visiting the Grand Acadian property on December 29, 2005); Tr. 1159:9-11 (Jarboe) (agreeing that he observed rutting); JX 34 (Dec. 15, 2005 Aerial Photos) 2446-48 (showing ruts across the entire sixty-acre property).

After Kinder Timber logged Grand Acadian’s property, AAA pulled up the stumps left behind. Tr. 2985:2-8 (Billedaux); cf. Tr. 3035:8-13 (Wofford) (stating that Kinder Timber did not remove the stumps or root systems of the trees it cut down).

AAA filled the stump holes with soil that had not been root raked. Tr. 2980:14-24 (Billedaux). As Mr. Jones, plaintiff’s expert witness in geotechnical engineering,

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<sup>33</sup>This figure, based upon the court’s calculation from information provided in Kinder Timber’s records, see JX 14 (Landowner Payment Forms) 1-2, is slightly lower than the figure of “just over 1,100 tons” calculated by defendant’s counsel at trial, Tr. 513:12-514:2 (colloquy between Mr. McConnaughay and defendant’s counsel).

explained in his discussion of preparing the subgrade for construction work, filling stumpholes by pushing dirt into them is the “primar[y]” manner in which clearing can mix organic material into the soil. Tr. 942:12-21 (Jones). As Mr. Jones testified, filling stumpholes in this manner can introduce grass, roots and tree limbs into the subsurface soil. See id.; cf. Tr. 3378:11-21 (Arnold) (describing same).

Over the course of its engagement with Grand Acadian, AAA ran a root rake over the entire sixty-acre property to remove debris from its surface, but held the teeth of the root rake at or near the surface of the ground, see Tr. 2985:21-2987:15 (Billedeaux), rather than lowering the teeth of the rake into the ground to gather roots or other organic material, see id. at 3005:18-20 (stating that “[t]he root rake was just like a leaf rake”).

Hurricane Rita struck on September 23, 2005, see JS ¶ 13, uprooting some of the remaining trees, see Tr. 2967:7-15 (Billedeaux). “For approximately two weeks following Hurricane Rita, . . . AAA . . . piled up some downed trees and uprooted some stumps from Grand Acadian’s 60-acre property using heavy construction equipment, but AAA . . . did not remove any downed trees or stumps from the property during this time.” JS ¶ 14.

Although Mr. Billedeaux agreed with counsel for plaintiff’s characterization that, when AAA was working, “the property was generally dry,” id. at 3007:18-20, and testified that Grand Acadian’s property was dry “[w]hen we started,” id. at 3006:16-18; see also JX 12 (Aug. 1, 2005 Photos) 1075 (showing bulldozer disturbing dust as it worked, indicating that the surface of the soil was dry), the presence of ruts in the soil at the beginning of the Lease term, see JS ¶ 36, indicates that the soil was not completely dry at all times when AAA and Kinder Timber were working. Mr. Wofford testified that Kinder Timber informed Mr. McConnaughhay that Kinder Timber would log Grand Acadian’s property only if the soil was dry, but did not state how dry the soil needed to be for logging to proceed. See Tr. 3021:2-3 (Wofford).

The rain data presented at trial demonstrates that there was significant rainfall during and just before the time that AAA and Kinder Timber were working. Between mid-July 2005 and October 7, 2005, there was rainfall of one-half inch or more on twelve days. See PX 179 (Rain Data) 1285-86. Rainfall approaching or surpassing one inch fell on July 15 (1.55 inches), July 22 (2.29 inches), August 3 (1.38 inches), August 10 (.98 inches), August 15 (.82 inches) and August 22 (1.65 inches). See id. at 1285. Eight days after the rainfall associated with Hurricane Rita, which totaled 9.15 inches on September 24 and .34 inches on September 25, see id. at 1286, AAA resumed work on Grand Acadian’s property, see Tr. 2983:14-2984:2 (Billedeaux) (stating that AAA resumed work on October 3, 2005). Grand Acadian did not cut any ditches to drain the water that had fallen during Hurricane Rita before AAA resumed its clearing. See Tr. 521:12-18 (McConnaughhay).

The soils on the Leased Property drain slowly and the northern two-thirds of the Leased Property are within an area that is 42% wetlands. See supra Part III.A.1. In some areas, the soil just below the surface remains saturated with water after the surface has dried. See supra Part III.A.1. Based on the evidence, it appears likely that Kinder Timber and AAA worked in both wet and dry conditions and on both wet and dry portions of Grand Acadian's property.

When AAA and Kinder Timber finished their work, they had removed almost all of the trees and underbrush from Grand Acadian's sixty-acre property. See JX 34 (Dec. 15, 2005 Aerial Photos) 2446-48; see McConnaughhay Dep. 130:4-8, May 21, 2010; JX 18 (Trip Report) 8671 (stating that "[t]he lot has been mostly cleared of vegetation"). However, AAA and Kinder Timber left several piles of debris. McConnaughhay Dep. 130:9, May 21, 2010. Although Mr. Billedeaux believed that he had pulled up and burned all of the stumps, see Tr. 2966:18-22 (Billedeaux), and root raked the entire property, see id. at 2985:21-2987:15, the parties have stipulated that tree stumps, downed trees and other debris were still scattered across the Leased Property in December 2005, JS ¶ 36. The remains of trees, limbs, branches and roots could be seen mixed into the soil. Tr. 3847:8-16, 3852:16-22 (Berg) (describing her observations during a December 29, 2005 site visit); JX 35 (Dec. 29, 2005 photos) 8849-50, 8852, 8856; Tr. 3672:11-21 (Sannik) (describing "roots sticking up that have been broken off and torn," visible in a photograph taken on December 29, 2005).

#### 5. Grand Acadian's Construction Activities on the Non-Leased Property

After the government determined that it would lease only the western portion of Grand Acadian's property, see infra Part III.B.2, Grand Acadian continued to develop the Non-Leased Property as an RV park.

##### a. Removing Debris, Logging and Clearing

On or around November 9, 2005 Grand Acadian hired D&G Construction, L.L.C. to finish clearing and grubbing the Non-Leased Property, establish drainage, dig ponds and build roads. See McConnaughhay Dep. 29:13-30:15, May 21, 2010; JX 22 (D&G Daily Reports) 0056 (describing, on the earliest of D&G's daily reports in evidence, work done on November 9, 2005). D&G restricted its work to the Non-Leased Property and did "[n]othing" on the Leased Property. McConnaughhay Dep. 30:16-22, May 21, 2010.

"Beginning in November 2005 and continuing through December 2005, . . . D&G . . . cleaned all of the debris out of the soils so there would not be any organic matter, sold 10 or 15 dump truck loads to the public, and spread the rest out across the non-leased property." JS ¶ 22. D&G used a root rake to collect this organic matter, which it piled and burned. See Tr. 223:8-17 (McConnaughhay). Debris that did not burn

was hauled off the property.<sup>34</sup> See id. at 640:9-20, 547:2-4. D&G hauled ninety-two dump truck loads of debris off of Grand Acadian's property. See id. at 543:8-554:7.

b. Construction of the Center Road, Blockage of Drainage

Around the same time, D&G began to construct a road that ran along the western edge of the Non-Leased Property, adjacent and parallel to the Leased Property (the Center Road). See JX 34 (Dec. 15, 2005 Aerial Photos) 2448 (showing an unpaved road between the Leased Property and the Non-Leased Property); Tr. 532:5-540:2 (McConnaughay) (reading aloud D&G's daily reports for the period of time from November 9 to December 3, 2005 and describing the work that took place); JX 22 (D&G Daily Reports) 0056-78 (describing roadwork undertaken before December 15, 2005; making several references to hauling, placing and compacting fill material on roads).

When D&G built the Center Road, it followed the recommendations in the CBK Report, first removing the silty soils to expose the clay subgrade beneath them. See McConnaughay Dep. 16:3-25:14, May 21, 2010. D&G then placed and compacted clay fill that it had excavated from the areas where Grand Acadian was constructing ponds. See id. at 19:22-21:3; Tr. 539:19-540:2 (McConnaughay) (describing the placement and compaction of clay in layers six to eight inches thick). D&G placed silt on top of the clay to form the road base layer, but halted work without mixing cement into the silt to make soil cement, see McConnaughay Dep. 18:18-22, May 21, 2010, or pouring the two inches of asphalt recommended by the CBK Report, see id. at 24:8-13.<sup>35</sup>

Before the development of Grand Acadian's sixty-acre property began, water drained across the surface of the soil--a process that Mr. McConnaughay called "sheet flow," Tr. 59:17-60:6 (McConnaughay)--traveling from northwest (that is, the northwest corner of the Leased Property) to southeast (that is, the southeast corner of the Non-Leased Property), see id. at 59:17-25 (stating that water drained toward the bayou); Tr.

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<sup>34</sup>Mr. McConnaughay explained the balance between burning material and hauling it off site as follows:

[A] lot of things just don't burn . . . . So[,] you can either sit there and just keep trying to burn them, which prevents you from working in that area, because you have debris there, piles of debris. Or to move on with the project--eventually we were running out of room. We needed to work. You know, and so it's--it's more cost effective, instead of holding all your crews up, just to haul it off, even though it costs to haul it off.

Tr. 640:11-20 (McConnaughay).

<sup>35</sup>The reason that Grand Acadian ceased work on the Non-Leased Property was not squarely addressed at trial and the parties do not contend that it is material to the resolution of this action.

3442:14-19 (Krielow); cf. Tr. 1138:7-10 (Jarboe) (stating that the property sloped from west to east).

Defendant's expert in construction practices and construction cost estimation, Mr. Carl J. Krielow, explained that, because the clay used as structural fill for the Center Road was impermeable to water, see Tr. 3449:3-11 (Krielow), the Center Road blocked drainage from the Leased Property,<sup>36</sup> id. at 3448:7-8. Mr. Krielow testified, "Once you elevate the surface on the nonleased side[,] it obstructs the natural flow of the surface drainage on the leased side," id. at 3443:3-5, an observation confirmed by at least two of the fact witnesses working on the Leased Property, see Tr. 1842:15-1843:4 (Gourgues) (stating that construction of the Center Road "definitely stopped the flow of water"); cf. Tr. 747:23-748:15 (Rothkamm) (stating that he could tell by looking at Grand Acadian's property that the Leased Property was lower than the Non-Leased Property as a result of construction activities on the Non-Leased Property).

Construction of the Center Road caused the Leased Property to hold more water after rainfall. Before construction of the Center Road, on approximately September 23, 2005, Hurricane Rita struck the Gulf Coast area, see JS ¶ 13, dropping 9.15 inches of rain in Sulphur, Louisiana on September 24 and .34 inches on September 25, see PX 179 (Rain Data) 1284, 1286. An aerial photograph taken six days later, on September 31, 2005 indicates that there was little or no standing water<sup>37</sup> on Grand Acadian's sixty-acre property. See JX 17 (Sept. 31, 2005 Aerial Photo). In contrast, on December 15, 2005 2.55 inches of rain--a significantly smaller amount--fell in Sulphur, Louisiana, see PX 179 (Rain Data) 1284, 1288, but submerged 50-60% of the Leased Property in water, see JS ¶ 39. Small quantities of rain also fell on December 17 (.1 inches), December 18 (.21 inches) and December 25 (.21 inches). See PX 179 (Rain Data) 1288. Because of the

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<sup>36</sup>None of plaintiff's expert witnesses in geotechnical engineering contradicted Mr. Carl J. Krielow's analysis. Mr. Prochaska did not analyze the effect that Grand Acadian's work on the Non-Leased Property had on the drainage of the Leased Property, Tr. 1308:22-1309:1 (Prochaska), and Mr. Bosecker did not mention the Center Road in his testimony. Mr. Jones described his recommendation that clay excavated from planned "lake features" be used to raise the elevation of road beds to create drainage and prevent pavement failure, Tr. 933:1-935:18 (Jones), but did not testify regarding the effect on the drainage of the Leased Property of building a road between the Leased Property and the Non-Leased Property.

<sup>37</sup>The court is unable to determine whether several very small, dark spots on the photograph are standing water or burn piles. See JX 17 (Sept. 31, 2005 Aerial Photo). If the spots are burn piles, there is no standing water visible in the photograph.

Although there was little or no standing water on the surface of Grand Acadian's property, the soils just below the surface may have been wet, as they were in many areas when Grand Acadian's engineering specialist, Mr. Mays, sampled them for Grand Acadian's wetlands determination request. See supra Part III.A.1.

obstructed drainage, the Leased Property remained wet and muddy on December 29, 2005. See Tr. 3847:8-11 (Berg) (describing the Property as “a very wet, muddy site” on December 29, 2005); Tr. 1786:21-1787:5 (Gourgues) (describing site conditions as “wet” on December 29, 2005); cf. 1726:1-18, 1730:13-19 (Beck) (stating that in late December 2005 or early January 2006 the Leased Property had standing water, including a “real wet area” west of its center).<sup>38</sup>

When construction of the Center Road blocked natural drainage from the Leased Property, see Tr. 3448:3-21 (Krielow), it also worsened a condition that Mr. Krielow described as “perched standing water,” see id. at 3444:3-10. The term “perched standing water” refers to “water that is standing on the surface and in the soft soils near the surface because it cannot penetrate the clay that’s beneath it, so it has to drain through the surface.” Id. at 3444:11-16; see also Tr. 2820:10-14 (McDowell) (“It’s a trapped water condition . . . where there is no drainage path. There is nowhere for the water to go besides evaporation.”). The effect of perched water is to “make the upper soils until you get to the clay base soft and mushy.” Tr. 3444:17-21 (Krielow).

- B. The Hurricanes, the Government’s Evaluation of Grand Acadian’s Property for Temporary Housing, and the Lease
  - 1. Hurricanes Katrina and Rita

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<sup>38</sup>Relying upon portions of the trial testimony of Mr. McConnaughay and Mr. Mark A. Fontenot, the owner, Tr. 956:6-7 (Fontenot), of one of the subcontractors that worked on the Non-Leased Property, see id. at 958:23-959:25, Grand Acadian argues that “Grand Acadian did not dam up the FEMA side,” Pl.’s Resp. in Opp’n to the Gov’t’s Post-Trial Mem. of Facts and Law (Pl.’s Resp.), Dkt. No. 193, at 14 (emphasis omitted). The portion of Mr. Fontenot’s testimony quoted by Grand Acadian, however, supports the proposition that construction of a road can obstruct drainage: “Q Would a road along the center with clay build up act as a dam between the two sides of the property? A If there’s not a ditch cut along there, yeah.” Id. at 14 n.37 (quoting Tr. 976:7-11 (Fontenot)). Mr. Fontenot did not testify that a ditch was dug next to the Center Road.

In the portion of Mr. McConnaughay’s testimony quoted by Grand Acadian, Mr. McConnaughay stated that Grand Acadian dug a ditch next to the Center Road, placing the dirt in conical piles to allow water to flow around the piles and into the ditch. See id. at 14 n.38 (quoting Tr. 135:13-136:7 (McConnaughay)). At trial, Mr. McConnaughay pointed out the conical piles on an aerial photograph or photographs taken on December 15, 2005. Cf. Tr. 134:13-136:24 (McConnaughay). The conical piles indicated by Mr. McConnaughay, however, continue for only a short distance along the northerly portion of the Center Road, and water can be seen pooled against the Center Road south of the piles, indicating that the ditch was insufficient to mitigate the obstruction by the Center Road of drainage from the Leased Property. See JX 34 (Dec. 15, 2005 Aerial Photos) 2445-49.

“On approximately August 29, 2005, Hurricane Katrina struck the [G]ulf [C]oast region of the United States and caused a declared state of emergency in Louisiana.” JS ¶ 9. “On approximately September 23, 2005, Hurricane Rita struck the [G]ulf [C]oast region of the United States, including Sul[ph]ur, Louisiana, and exacerbated the declared state of emergency that had existed in Louisiana from Hurricane Katrina.” JS ¶ 13. According to Mr. Stephen M. DeBlasio, Sr., who was assigned to the Gulf Coast region as the Housing Area Command logistics support representative before Hurricane Katrina struck, Tr. 1607:9-12 (DeBlasio), the hurricanes left approximately 200,000 to 300,000 families without shelter, see id. at 1608:6-8. The federal government sought to provide temporary housing for those who had been displaced. See JS ¶ 15.

When providing temporary housing for hurricane victims, Mr. DeBlasio explained, FEMA’s “first preference is to use available housing stock in the area: apartments, even hotels, [and] motels.” Tr. 1610:3-5 (DeBlasio). FEMA’s second preference “would be to get units<sup>39</sup> installed on an individual’s private property” to avoid the need for relocation and other services. Id. at 1610:8-12 (footnote added). FEMA’s third preference “would be to go out and lease commercial pads” on which to place housing units. Id. at 1610:13-19. FEMA inspected every commercial RV pad in the state of Louisiana to see whether housing could be placed on them. Id. at 1610:15-23.

If it is not possible to house hurricane victims using its first three methods, FEMA will construct group sites where it can place multiple units--an approach that is “very costly and . . . [the] least desirable method of housing individuals.” See id. at 1610:24-1611:10. Mr. DeBlasio testified that “one of the risks” involved in constructing group sites is that they will not be completed before they become unnecessary:

[A]s you take a lot of time to build these sites out, and it’s not uncommon to take a lot of time, usually it’s 45 to 60 days at a minimum to build a group site. Other things start to happen. Folks get back into their homes, they go and rent another place because there were a lot of renters out there. Commercial parks come up and become available. Utilities, sewage, water, electrical utilities start coming online so people can get back into their own homes if they were not damaged directly.

Id. at 1627:12-24.

Mr. DeBlasio explained that his initial goal was to bring 500 units of housing into Mississippi and 500 units of housing into Louisiana every day. Id. at 1608:8-11. After Hurricane Katrina, FEMA’s efforts to provide housing in Louisiana were “lagging behind quite a bit and we were getting a lot of pressure,” leading FEMA to appoint Mr. DeBlasio

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<sup>39</sup>Mr. Stephen M. DeBlasio, Sr. testified that FEMA housed hurricane victims in travel trailers, “park model units” and “full manufactured housing units.” Tr. 1609:9-24 (DeBlasio).

as the housing officer for FEMA’s joint field office in Baton Rouge, Louisiana, a position in which he focused solely on providing housing in the state of Louisiana. Id. at 1611:14-22. Mr. DeBlasio was given a goal of housing 1,000 families per day in Louisiana, which he described as “scientifically, physically impossible.” Id. at 1614:22-25. For two months after Hurricane Rita, “the numbers were increasing all the time,” and “[t]here was no end in sight.” Id. at 1614:16-20.

When installation of housing units on private property and commercial RV pads proved insufficient, Mr. DeBlasio and his staff began to discuss “the possibility of building a couple of group sites,” including one on Grand Acadian’s property. Id. at 1616:15-1617:6.

## 2. The Government’s Evaluation of Grand Acadian’s Property for Temporary Housing

“On September 20, 2005, the Government’s strike team of contractors evaluated Grand Acadian’s 60-acre property from looking at the surface. The Government’s strike team did not conduct any subsurface testing on Grand Acadian’s 60-acre property.” JS ¶ 12. “On October 10, 2005, representatives from the Corps evaluated Grand Acadian’s 60-acre property from looking at the surface. The Corps did not conduct any subsurface testing on Grand Acadian’s 60-acre property.” JS ¶ 17. Mr. David Scott Rothkamm, the site manager for Fluor, Tr. 733:22-23 (Rothkamm), the government’s contractor for its RV park development on the Leased Property, agreed that, based on his observations, he “didn’t anticipate any problems building the project,” id. at 777:25-778:4.

Dr. Herman H. Jarboe, a Corps water resource planner specializing in ecosystem restoration, Tr. 1128:19, 1130:2-5 (Jarboe), participated in the October 10, 2005 site visit, see id. at 1135:18-1136:3, and testified regarding his observations. Dr. Jarboe’s role was to walk over potential housing sites and evaluate, principally, “natural resource conditions and the overall state of the site in regards to natural resources.” Id. at 1132:13-21. Dr. Jarboe wrote in his trip report that “there is a damp area which currently holds water and smells of a highly eutrophic environment very much like a former agriculture feed lot.” JX 18 (Trip Report) 8669. At trial, Dr. Jarboe explained that by “smells of a highly eutrophic environment,” he meant that the wet area smelled of urine, which is characteristic of an area with high levels of nitrogen and phosphorous. Tr. 1153:17-1154:6 (Jarboe). Dr. Jarboe further testified that “if an area has stood for a while, . . . [s]ometimes in a eutrophied area, algae develops around the edges of the pools.” Id. at 1154:10-14. Dr. Jarboe observed “the precursors o[f] algae development at this site as well.” Id. at 1154:15-16.

Dr. Jarboe observed that, according to a 1998 floodplain map, “at least 70% of the site was in the 100-year flood plain.” JX 18 (Trip Report) 8670. Dr. Jarboe noted in his trip report that Grand Acadian had applied for a permit under the Clean Water Act, that a

permit had been issued and that Grand Acadian had satisfied the permit's mitigation requirements.<sup>40</sup> Id. at 8670-71.

“On October 9, 2005 the Government directed its contractor, Fluor,<sup>41</sup> to begin preparing designs for the proposed development of Grand Acadian's 60-acre property.” JS ¶ 16. “On October 11, 2005, the Government expressed interest in leasing Grand Acadian's property for use as a temporary housing site.” JS ¶ 18.

Because Grand Acadian's property was located in a flood plain, the government decided, in light of an executive order and FEMA regulations requiring FEMA to avoid construction in flood plains, to lease only the western half of Grand Acadian's property, which was almost entirely outside of the flood plain. See Tr. 1773:10-1775:1 (Kilner); JS ¶ 20 (stating that the government “decided to pursue a lease of the western 30 acres of Grand Acadian's property”).

After the government decided to lease only the western half of Grand Acadian's property, Grand Acadian hired D&G to continue development of the Non-Leased Property as an RV park. See supra Part III.A.5 (describing Grand Acadian's development, beginning around November 9, 2005, of the Non-Leased Property).

### 3. The Lease

“On December 7, 2005, the Government and Grand Acadian entered into a contract to lease approximately 30 acres of Grand Acadian's land.” JS ¶ 32; see also JX

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<sup>40</sup>Mr. McConnaughay explained that, to comply with the Corps' mitigation requirements, Grand Acadian was required to offset the impact to the wetlands Grand Acadian was developing by paying for the purchase of land located elsewhere in a “mitigation land bank” and the planting of trees on the purchased land. See Tr. 67:1-69:22 (McConnaughay).

<sup>41</sup>Because it is not clear from the parties' briefing and the evidence presented at trial exactly which of Fluor's corporate entities was involved with construction on the Grand Acadian property other than Fluor's subsidiary, P2S, the court, when discussing any Fluor entity other than P2S, refers to Fluor.

In its briefing, the government capitalizes all of the letters in the word “FLUOR” when referring to the actions of both Fluor and its subcontractors. Def.'s Br. 25. In its briefing and pleadings, Grand Acadian at times capitalizes all of the letters in the word “FLUOR,” as well as the names of parties and other terms. See, e.g., Am. Compl. 1 (capitalizing all of the letters in the words “GRAND ACADIAN” and “LEASE”), 3 (capitalizing the word “FLUOR”), 4 (capitalizing all of the letters in the word “SITE”), 8 (capitalizing all of the letters in the words “FEMA WEST-HALF” and “GRAND EAST-HALF”). For clarity and consistency, the court has replaced the parties' use of capitalization with standard capitalization in its quotations from and references to the parties' briefing.

31 (Lease<sup>42</sup>). “The exact amount of Grand Acadian’s property that was leased to the Government was 27.4 acres.” JS ¶ 34. The Lease commenced on December 7, 2005 for a term of three years at an annual rent of \$252,262.50 “subject to termination and renewal rights.” JX 31 (Standard Form Lease) ¶¶ 2-3.

A section of the Lease titled “Use of Land” states as follows:

The Government (including FEMA and other entities listed above) are providing disaster relief to victims of Hurricane Rita [sic] which occurred in August 2005. One type of disaster assistance is temporary housing for disaster assistance recipients. Use of the Property shall be for construction and establishment of temporary housing facilities for disaster assistance recipients and the construction of improvements (including, but not limited to utilities, roads or driveways, and trailer pads) as the Government determines necessary and/or expedient in connection with the establishment and operation of temporary housing facilities.

JX 31 (Lease Rider) ¶ 2.

The Lease contains a Restoration Clause, which reads, in pertinent part:

Alterations and Improvements. Any physical additions or improvements to the Premises made by the Government will become the property of Lessor. Lessor may require that the Government, at the end of the Term and at the Government’s expense, remove any physical additions and improvements, repair any alterations, and restore the premises to the condition existing at the lease commencement date, normal wear excepted.

Id. ¶ 6.

The Lease also requires the government to “comply with all Federal, State and local laws applicable to and enforceable against it as a tenant under this lease.” JX 31 (General Clauses) ¶ 15.

C. The Condition of the Soil on the Leased Property at the Beginning of the Lease

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<sup>42</sup>The lease at issue in this case (the Lease) includes several documents. The court cites to each document using the original pagination and paragraph numbering within each document. The court refers to the first two pages of the Lease as the “Standard Form Lease,” pursuant to legends that appear in the upper left-hand corner of the first page and the lower left-hand corner of the second page. See JX 31 (Standard Form Lease) 1-2. The Standard Form Lease incorporates by reference four documents, including a lease rider (Lease Rider) and a document containing general clauses (General Clauses). See id. ¶ 6.

The Leased Property, prior to clearing and logging, was covered with trees and a surficial layer of silty soil, below which was a layer of stiff clay. See supra Part III.A. The precise depth of the clay layer at the beginning of the Lease is not known, which is demonstrated by the contradictory answers provided by Mr. Hudson and by plaintiff's three expert witnesses in geotechnical engineering. Mr. Hudson concluded that the clay layer began at approximately fifteen to twenty-four inches of depth but, because of poor sampling techniques and the limited number of samples collected, the soil borings provided only a rough indication of the depth at which the clay layer actually began. See supra Part III.A.2. One of Grand Acadian's expert witnesses in geotechnical engineering, Mr. Jones, relying only on Mr. Hudson's composited soil borings, estimated that the clay layer was located approximately two feet beneath the surface of the soil. See supra Part III.A.3. Another of Grand Acadian's expert witnesses in geotechnical engineering, Mr. Bosecker, after considering the CBK Report in light of United States Geological Survey (USGS) soil conservation maps, concluded that the clay layer was likely located between approximately two and three feet in depth. See infra Part III.D.5. Grand Acadian argues that test pits dug by its third expert witness in geotechnical engineering, Mr. Prochaska, "on the Grand Acadian side in the 'buffer zone' revealed soils in their undisturbed, natural state, with two to four feet . . . of silty soil laying over a distinct clay base." Pl.'s Br. 16 (citing Tr. 1225-27 (Prochaska)).<sup>43</sup>

Over the course of several months, prior to the commencement of the Lease term, Grand Acadian had cleared and logged the Leased Property, introducing an unknown quantity of additional organic material into the soil. See supra Part III.A.4 (describing clearing and logging by Grand Acadian's contractors). The contractor hired to log Grand Acadian's property dragged 1,085 tons of timber across Grand Acadian's property with skidders to a staging area, where it de-limbed the trees and loaded them into trucks. See supra Part III.A.4. The skidders, which tend to sink into the soil more than tracked equipment due to their rubber tires, left ruts on the Leased Property and pushed organic material below the surface of the ground. See supra Part III.A.4.

Notwithstanding Mr. Jones's trial testimony that the likelihood of organic matter being mixed into the soil is greater when trees are pushed down, pushed into a pile and burned during clearing operations, see supra Part III.A.3, AAA, the contractor that cleared Grand Acadian's property, pushed trees down, pushed them into piles and burned them, see supra Part III.A.4. Mr. Jones testified that if trees are cut down before their

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<sup>43</sup>The soil borings made by SEI, described below in detail--which, although collected after the Lease began, were made at regular intervals across the entire Leased Property in a grid pattern--appear to be the best evidence of the depth of the clay base on the Leased Property. See infra Part III.D.2. "SEI determined that very soft, water saturated, silty soils appeared to be present in the upper two to four feet of the site with an average thickness of about three feet." JS ¶ 43. Regardless of its average depth, the clay layer varied, "almost like waves through the cross section of the soil." Tr. 910:12-16 (Jones).

stumps are pulled up, “they’re able to pull the stumps out and pull a lot of the root system with it.” Tr. 942:21-25 (Jones). AAA, however, cut the root systems of larger trees with a bulldozer and then pushed them down, see supra Part III.A.4, leaving the root systems in the soil. Hurricane Rita pushed down some of the large trees that had not been logged, see supra Part III.A.4, leaving additional roots in the soil. AAA filled stump holes by pushing soil from the surface of the Leased Property into the stump holes, which, according to Mr. Jones, is the “primar[y]” manner in which clearing operations mix organic material into the soil. See supra Part III.A.4.

The amount of organic material Grand Acadian’s clearing and logging operations mixed into the subsurface of the soil is not known. However, Grand Acadian’s development of the Non-Leased Property, in particular, the testimony of Mr. McConnaughay that ninety-two truckloads of debris were removed from the Non-Leased Property after root raking and that additional debris was burned, indicates that a large quantity of organic material was at or beneath the surface of the soil of the Leased Property at the beginning of the Lease term. See supra Part III.A.5.a.

Moreover, the soil on the Leased Property drained slowly and two-thirds of the Leased Property was located in an area in that was 42% wetlands. See supra Part III.A.1. A wetlands determination request filled out by Grand Acadian’s engineering specialist, Mr. Mays, documented the presence of saturated soils in some areas beginning six inches below the surface and oxidized root channels at a depth of twelve inches below the surface. See supra Part III.A.1. These observations indicate that the soil beneath the surface could remain wet even when the surface was dry and that the vegetation had adapted to persistent wetness. See supra Part III.A.1. In some portions of the Leased Property, there was a feed lot smell and the precursors of algae development had begun to appear. See supra Part III.B.2.

In its natural state, Grand Acadian’s property sloped from west to east, and water drained from the Leased Property across surface of the Non-Leased Property into a bayou. See supra Part III.A.5.b. When a strike team of the government’s contractors evaluated Grand Acadian’s property on September 20, 2005, see JS ¶¶ 11-12, and when representatives from the Corps evaluated Grand Acadian’s sixty-acre property on October 10, 2005, see JS ¶ 17, this natural drainage had not yet been obstructed by Grand Acadian’s construction activity on the Non-Leased Property, see supra Part III.A.5.b.

However, in November and December 2005, Grand Acadian built the Center Road, which blocked drainage from the Leased Property. See supra Part III.A.5.b. The effect Grand Acadian’s construction of the Center Road had on the Leased Property became clear when rain fell on December 15, 2005--soon after the Lease was signed. See supra Part III.A.5.b. The rain collected on the Leased Property as perched standing water, much of which remained two weeks later, on December 29, 2005, when Fluor visited the Leased Property, see supra Part III.A.5.b, and three weeks later, on January 7,

2006, when Fluor began work, see infra Part III.D.1. As a result of the perched standing water, the silty layer of soil was “soft and mushy.” Tr. 3444:7-21 (Krielow).

D. The Government’s Construction Activities and Soil Sampling

1. Fluor’s Arrival, Establishment of Drainage and Completion of Clearing

“On December 7, 2005, the Government authorized Fluor to proceed with construction on Grand Acadian’s leased property,” JS ¶ 35, and “[o]n January 3, 2006 the local Calcasieu Parish Division of Planning and Development approved the Government’s application to develop [the Leased Property] for temporary housing,” JS ¶ 40.

On January 5, 2006 Fluor executed a subcontract with Dexter Honore Construction, LLC (Honore<sup>44</sup>) to “supply all supervision, labor, equipment, tools, materials, protective equipment and all items of expense” to develop the Leased Property. JX 81 (Fluor-Honore Contract) 1, 3. Honore agreed to complete construction of the planned 180-unit RV park “not later than [s]ixty days from the first day of mobilization.” Id. at 1.

Fluor and its subcontractors arrived at the Leased Property after lunch on January 7, 2006 and spent much of the remaining portion of the day offloading equipment, see Tr. 738:14-739:1, 741:18-22 (Rothkamm). Fluor then “immediately” began to construct temporary drainage ditches approximately eighteen inches deep to drain surface and subsurface water from the Leased Property.<sup>45</sup> Tr. 1814:15-16, 1816:11-12 (Gourgues). Fluor used pumps to “dewater[.]” the Leased Property, see id. at 1819:8-10 (“Every day we were there, we were . . . dewatering [and] digging temporary ditches.”); cf. id. at 1831:22-1832:2 (“Dewatering is using a water pump to pump water out of the area that’s holding water into either a retention pond or into a temporary ditch. It is funneling the water away from the work.”). Fluor spread some of the wet soil on higher areas, see, e.g., JX 37 (Fluor Daily Reports<sup>46</sup>) 2477, in an attempt “[t]o try and dry the topsoil out,” Tr. 753:17-23 (Rothkamm).

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<sup>44</sup>Dexter Honore, LLC (Honore) hired Group Contractors as a subcontractor; Group Contractors hired Goodrich Equipment as a subcontractor. See Tr. 1802:13-22 (Gourgues).

<sup>45</sup>The temporary drainage ditches addressed not only the water pooled on the surface of the ground but also the subsurface water, which “tends to bleed through the silty topsoil and into the ditches.” Tr. 3537:1-9 (Krielow).

<sup>46</sup>Each of Fluor’s daily reports contains a section where Honore described the work it performed and a second section for comments by Mr. David Scott Rothkamm or his site superintendent. See Tr. 740:6-25 (Rothkamm).

At the same time that Fluor established and maintained temporary drainage, see Tr. 3421:20-3422:6 (Krielow), Fluor installed measures to prevent runoff of silt,<sup>47</sup> cleared the remaining trees from the Leased Property and burned debris, see JX 37 (Fluor Daily Reports) passim; Tr. 744:2-757:10 (Rothkamm) (explaining work documented on Fluor's daily reports); JX 38 (Fluor Surveillance Reports<sup>48</sup>) 2000-01 (describing clearing of debris). Fluor dug up, piled and burned “[h]undreds” of stumps that had been left behind by Grand Acadian's contractors.<sup>49</sup> Tr. 1732:15-21 (Beck<sup>50</sup>).

On January 8, 2006--the first full day of construction--Fluor encountered difficulties with the soil on the Leased Property. See JX 38 (Fluor Surveillance Reports) 2001 (stating, in an entry dated January 8, 2006, “The soil is wet in some area[s] at the back side of the property. . . . Area near the fire station [has] standing water. Approximate 50' x 70' area from the last rain about a week or so ago”); Tr. 1730:13-15 (Beck) (stating that, at the time that he began work, the Leased Property was wet and had standing water). The wettest part of the Leased Property was a low area located to the southwest of where the retention pond would later be built. See Tr. 1751:9-1752:1 (Beck); JX 75 (Dec. 29, 2006 Aerial Photos) 2070-71 (showing the location of the retention pond). On January 9, 2006 Fluor held a meeting to discuss the condition of the soil, which Fluor's site manager, Mr. Rothkamm, described as containing “wet areas, mud, [and] low spots.” Tr. 749:8-23 (Rothkamm); see also JX 37 (Fluor Daily reports) 2479 (stating, in an entry dated January 9, 2006, “meeting @ 4:00 to discuss soil @ site”).

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<sup>47</sup>One of the erosion control measures used by Fluor was the construction of berms. Tr. 3897:3-6 (Berg). A berm is “a mound of uncompacted dirt.” Tr. 3265:9-13 (Hudson). One berm ran along the eastern side of the Leased Property from Mosswood Road to the retention pond, see Tr. 3890:17-3891:14 (Berg), continuing around the retention pond, see id. at 3894:3-7. A second berm built by Fluor ran east-to-west along the northern side of the Leased Property. See id. at 3896:19-22.

<sup>48</sup>Fluor's surveillance reports were maintained by a Fluor employee stationed on the Leased Property and tasked with ensuring that subcontractors complied with Fluor's quality control procedures. See Tr. 758:18-759:20 (Rothkamm). The author of the surveillance reports did not testify at trial.

<sup>49</sup>The evidence presented at trial did not address whether Fluor filled stumpholes with dirt from the surface of the Leased Property, which could have introduced some organic material. See supra Part III.A.4. The practice of filling stumpholes with dirt from the surface during clearing operations is consistent both with local practice, see Tr. 942:4-11 (Jones), and the activities of Grand Acadian's own contractors on the Leased Property, see supra Part III.A.4.

<sup>50</sup>During the period of time relevant to this case, Mr. Kenneth T. Beck was the owner of Goodrich Equipment, see Tr. 1722:16-19 (Beck), a subcontractor employed by Group Contractors to conduct clearing, grubbing and stripping of topsoil from the Leased Property, id. at 1726:24-1727:10, and to dig drainage ditches, see id. at 1734:22-24.

Defendant's expert witness in construction practices and construction cost estimation, Mr. Krielow, explained that, while soil is wet, it is not possible to begin "earth work embankment operations" and work was limited to dewatering and clearing. Tr. 3534:6-20 (Krielow). Mr. Krielow explained that "[e]mbankment is a fill material that can either be placed in an area that has been excavated or above grade on a project for building a project up." Id. at 3406:4-9. The replacement, described in the CBK Report, of silty material with clay beneath planned improvements can be described as building embankment. See id. at 3474:22-3475:3.

Mr. Kevin P. Gourgues, an employee of Group Contractors, the Fluor subcontractor responsible for "clearing and grubbing, installing roadways . . . [and] digging a retention pond," Tr. 1802:9-17 (Gourgues), informed Fluor that "we could not perform the work in the amount of time [allotted] . . . because the ground was extremely wet at that time of the year and there was no way it was going to get dried out fast enough to build it in the allotted time," id. at 1812:24-1813:3; cf. id. at 1812:2-8 ("The issue was . . . it was too wet to do it in the timeframe provided, which was 60 days."). Fluor decided to conduct soil borings to determine the extent of the problem. See JX 37 (Fluor Daily Reports) 2478; cf. infra Part III.D.2 (discussing the results of the soil borings).

After the meeting to discuss site conditions, Fluor began to construct the permanent drainage and erosion control structures that it had planned for the Leased Property. See JX 37 (Fluor Daily Reports ) 2470-75. Fluor's engineering drawings "provided for a drainage ditch to run north and south along the eastern boundary of the leased property [(the East Ditch)]," JS ¶ 26, "a drainage ditch to run east and west along the southern boundary of the leased property [(the South Ditch)]," JS ¶ 27, and "a retention pond to be located on the south-eastern portion of the leased property," JS ¶ 28. "[T]he east ditch was to drain to the south ditch, which would drain to the bayou." Tr. 772:18-20 (Rothkamm). To reach the bayou--which abuts the southeast corner of Grand Acadian's sixty-acre property, see JX 17 (Sept. 31, 2005 Aerial Photo)--the South Ditch continued across the southern edge of the Non-Leased Property, see Tr. 1833:16-1834:8 (Gourgues).

Fluor dug the East Ditch between January 11, 2006 and January 13, 2006. See JX 37 (Fluor Daily Reports ) 2470-75. Fluor dug both the retention pond and the South Ditch between January 12, 2006 and January 15, 2006, see id. at 2466-73, and began work on a temporary road on January 12, 2006,<sup>51</sup> see id. at 2473 ("Started east road[.]"); id. at 2469 ("Backfill along east roadway[.]"); id. at 2468 ("Building temporary site road[.]").

## 2. The SEI Soil Boring Report

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<sup>51</sup>The purpose of the temporary road was briefly described at trial. See infra n.78.

“On January 10-11, 2006, a representative of Site Engineering, Inc. (“SEI”) took 30 soil boring samples to a depth of six feet in a grid pattern evenly distributed across the entire leased property.” JS ¶ 43. To determine the depth of the soft, unstable soils, “a ½-inch diameter probe rod was ‘pushed’ into the soft soils to a depth of firm resistance . . . . Several probings were performed at each boring location and an average thickness recorded.” JX 44 (SEI Report) 2. “In general, very soft soils appeared to be present in the upper 2 to 4 feet of the site with an average thickness of about 3 feet.” Id.

The parties have stipulated, and the court adopts as a factual finding, the following:

SEI issued a preliminary report on January 11, 2006 and a final report [(the SEI Report)] on January 15, 2006. The purpose of SEI’s analysis was to determine the depth of soft, unstable soils within the area intended for construction and to provide recommendations with regard to options for remediation of the soft conditions. SEI determined that very soft, water saturated, silty soils appeared to be present in the upper two to four feet of the site with an average thickness of about three feet. SEI recommended the removal and replacement of the soft, unstable, water[-]saturated soils with compacted structural fill for construction.

JS ¶ 43; see generally JX 41 (Preliminary SEI Report); JX 44 (SEI Report). The SEI Report stated, “It is believed that the saturated nature of the near surface soils can be attributed to perched water. . . . Generally, perched water is slow to drain and may thereby significantly retard earthwork and construction activities.” JX 44 (SEI Report) 3 (internal quotation marks omitted).

SEI did not perform testing to determine the organic content or the clay content of the silty soil, see Tr. 3368:19-24 (Arnold); however, the SEI Report stated that “[t]he upper soils also contained a significant organic content,” JX 44 (SEI Report) 3. Asked at trial to explain his use of the word “significant,” Mr. Clint McDowell, a licensed engineer and the owner of SEI, Tr. 2805:3-18 (McDowell), stated as follows: “Visually obvious . . . is a good way to put it. [The soil samples] contained root fragments and organic material,” id. at 2846:9-12. In testimony, Mr. McDowell stated that SEI subjected sixteen of the thirty samples to laboratory testing and that organic material was visible in ten<sup>52</sup> of the sixteen samples. See id. at 2856:13-2857:1; cf. id. at 2847:10-13 (agreeing that the organic material was visible to “people on the ground . . . and in the lab.”). In its description of eight of the soil borings with organic content, the SEI Report did not note the depth to which organic materials continued, indicating instead that

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<sup>52</sup>The SEI Report documents the presence of organic materials in eleven samples. See JX 44 (SEI Report) 6-9. At trial, Mr. McDowell, apparently by mistake, counted ten samples that contained organic material. See Tr. 2856:13-2857:1 (McDowell).

organics were visible somewhere in the portion of the sample collected between zero and two feet of depth. See JX 44 (SEI Report) 6-9; Tr. 2854:6-13 (McDowell) (“Q Does this chart tell me whether those organics were found on top of the dirt or two feet down? A No. Q Okay. So somewhere between 0-2 feet? A Right. Q Could be zero? Could be two? A Correct.”). Describing the other three soil borings with organic content, the SEI Report stated that in soil boring twenty-five, organics continued to twenty-eight inches of depth, in soil boring twenty-nine, organics continued to thirty inches of depth and that in soil boring thirty, organics continued to twenty-nine inches of depth. See JX 44 (SEI Report) 9. Owing to the size of the sampling device, any organic material appearing in SEI’s soil borings would be no larger than the three inches in diameter and eighteen to twenty-four inches in length.<sup>53</sup> See Tr. 2863:2-14 (McDowell).

Although the parties mention only one method of remediation in their joint stipulation--the removal and replacement of soil, see JS ¶ 43--the SEI Report also described two other options that would render the soft, unstable soils usable but which were undesirable in the circumstances because they were either slow or expensive. The SEI Report stated that the wet soil could be dried “by disking<sup>54</sup> and allowing the soils to dry naturally by exposure to the sun and wind.” JX 44 (SEI Report) 3 (footnote added). The SEI Report cautioned that allowing the soil to dry naturally would be “extremely weather dependent” and that “[n]aturally drying the soils will require extensive time and effort due to the thickness of the unstable soils encountered.” Id. The SEI Report stated that stabilizing the soil “with fly ash or Portland cement is generally a quicker alternative but [is] much more expensive than naturally drying the soils” and may interfere with excavation to install utilities and create footings for building construction. Id. Accordingly, the SEI Report concluded that, “[b]ased on our understanding of the time and economic constraints of this project, it appears that removal and replacement of the soft, unstable, saturated soils will produce the most economical remediation results.” Id. at 4.

Replacing such a large volume of soil would not necessarily have kept the project on schedule, as plaintiff’s expert witness on geotechnical engineering, Mr. Prochaska, indicated in a portion of his deposition read into the record at trial:

Question: If you were told in early January of 2006 that you have 30 days to do all the earth work on this site, what would you have said?

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<sup>53</sup>SEI’s soil borings were collected with a Shelby tube approximately thirty inches long and three inches diameter. See Tr. 2863:2-8 (McDowell). Although SEI’s soil borings continued to a depth of six feet, see JS ¶ 43, each sample was composed of multiple “recover[ies]” between eighteen and twenty-four inches in length, see Tr. 2863:7-10 (McDowell).

<sup>54</sup>“Disking” soil is using a truck or tractor to pull a device fitted with several angled disks through the surface of the soil. See Tr. 637:5-638:12 (McConnaughay).

Answer: I'd have laughed in their face.

Question: Why?

Answer: Because you'd have to go 24-hours a day and haul it all off and start from scratch and you still may not make it because you've got rains coming fairly regularly at that time of the year.

Tr. 1318:18-1319:11 (Prochaska) (acknowledging prior deposition testimony); see also id. at 1318:11-14 (“Q If you were told in early January 2006 that you had 30 days to do all the earth work on this site, what would you have said? A I would have said no.”).

### 3. The Order to Stop Work

In a proposal transmitted to Fluor on January 18, 2011, Mr. Robert H. Benton, Jr., Honore's project manager, wrote that Honore had “completed all ‘work-around’ activities on the jobsite and if we are unable to begin the soil remediation process, we will be forced to halt work until a decision is made.” PX 480 (E-mail from Honore to Fluor) 6343, 6345. Mr. Benton wrote that “[w]e must receive a soil remediation resolution in a very short time or we will run out of work for our jobsite personnel.” Id. at 6345. Mr. Benton included six proposals for remediation of site conditions, stating that each could be completed in fourteen days. See id. at 6344. At trial, Mr. Benton testified that completing the remediation efforts he described in the proposal would have required Honore to work twenty-four hours a day. See Tr. 3343:11-15 (Benton).

On January 21, 2006 Fluor notified the government that “we have a soil issue at the Gran[d] Acadian RV Park and we estimate the increased cost for the soils work should run about \$2.8M.” JS ¶ 44 (quotation marks omitted). Mr. Benton testified that Fluor was referring to his fourth remediation proposal, which called for excavation of the top one and one-half feet of soil and replacement with structural fill. See Tr. 3344:3-16 (Benton).

On January 24, 2006 the government's contracting officer's technical representative (COTR) “notified Fluor that [the] site [would] need approval from environment[al] before proceeding, and Fluor suspended all work on [the Leased Property] except for de-watering and other water control work.” JS ¶ 45 (quotation marks omitted). “On February 2, 2006, the COTR directed Fluor to stop work on Grand Acadian's leased property,” JS ¶ 48, “to give [FEMA] a chance to really analyze what the best way forward was going to be,” Tr. 1625:17-1626:4 (DeBlasio).

“On February 6, 2006, the Government decided to proceed with the Grand Acadian project notwithstanding Fluor's estimate of additional costs associated with soil conditions on the leased property,” JS ¶ 50, and it directed Fluor to resume work, JS ¶ 51. Mr. DeBlasio, the housing officer for FEMA's joint field office in Baton Rouge,

Louisiana, made the decision to proceed with the project, Tr. 1633:1-10 (DeBlasio), and testified that he did so because he “felt that the site still needed to be built,” *id.* at 1633:11-14. Removing and replacing soil “seemed like it was the only way that the contractors were going to get any traction . . . in getting this construction moving. Time was of the essence and the longer it took for us to build the site, the more likely that we weren’t going to have anybody to put in there once we built it . . . .” *Id.* at 1624:17-1625:5.

FEMA evaluated the supply of temporary housing and the demand for additional temporary housing on a daily basis. *Id.* at 1628:15-22. Soon after authorizing construction to continue, Mr. DeBlasio reconsidered his decision in light of the then substantially decreasing demand for temporary housing. Mr. DeBlasio testified that, “once November hit, following Thanksgiving, there was an obvious and dramatic dropoff in the number of units I could install per day and the overall requirements for housing units in general.” *Id.* at 1615:9-13. Thereafter, “[a]fter the Christmas and New Year’s holidays, the trend was definitely on a major downward flow.” *Id.* at 1615:16-17. Demand for temporary housing “just dropped off tremendously from the holiday season on. . . . [U]tilities were coming up, and people were finding their own means of safe and habitable housing.” *Id.* at 1628:1-14.

On February 9, 2006 the government instructed Fluor to place the Grand Acadian project on hold. JS ¶ 54. On February 11, 2006 the government decided to cancel the Grand Acadian project and directed Fluor to stop work. *See* JS ¶¶ 56-57. On February 15, 2006 the government sent Grand Acadian a notice of Lease termination effective December 6, 2006. JS ¶ 59. The government’s notice of termination stated that “[p]rior to the effective date of lease termination, the Government will clean the land, finish grading as necessary and seed the land to prevent erosion.” JX 51 (Notice of Termination).

#### 4. Soil Replacement Cost Estimate by Mr. Lowery

In April 2006 Grand Acadian retained Lancon Engineers to develop a cost estimate to perform soil replacement at the Leased Property. *See* Tr. 2928:2-9 (Lowery). Mr. John Lowery, who is employed by Lancon Engineers as a senior project engineer, *see id.* at 2927:25-2928:1, provided two cost estimates to Grand Acadian, *see* JX 55 (First Lancon Report); JX 58 (Second Lancon Report).

The First Lancon Report, dated April 27, 2006, provided a cost estimate to undercut the East Ditch, the South Ditch and the retention pond by one foot and fill them with compacted material; to remove the uppermost four feet of soil from the remaining portion of the Leased Property and replace it with compacted material; and to replace 150 “trees originally planned to remain in [the] facility.” JX 55 (First Lancon Report) 1-2. The total cost of these items and a contingency fee of 20% was \$4,786,403. *See id.* at 2.

The Second Lancon Report, dated July 5, 2006, stated, “Per your direction at our meeting last week we have added several items to the original cost estimate for the project.” JX 58 (Second Lancon Report) 1. The items added to the cost estimate were “hydroseeding the property when the project is complete, dewatering during construction, and engineering and surveying fees associated with detailed design of the project as well as an allowance for field inspection.” *Id.* The Second Lancon Report stated that the [a]ddition of these items has raised our initial cost estimate to complete the original scope of work from 4.79 million dollars to 5.75 million dollars,” *id.*, almost exactly the measure of damages that Grand Acadian had demanded in its First Certified Claim, *see supra* Part I.

The First and Second Lancon Reports provide estimates to perform soil replacement in a manner specified by Mr. McConnaughay. Neither is an independent investigation of soil conditions on the Leased Property or an assessment of the necessary measures to restore the Leased Property to its condition at the beginning of the Lease term. In a portion of his deposition read into the record at trial, Mr. Lowery stated that, before recommending “[i]n a stamped report or plans [that] ‘x’ amount of soil had to be removed,” he would request soil borings. Tr. 2931:9-20 (Lowery) (acknowledging prior deposition testimony). However, although Mr. Lowery performed a “visual inspection of the site and estimated [the] dimensions” of the East Ditch, the South Ditch and the retention pond, JX 55 (First Lancon Report) 1, Mr. Lowery received “no geotechnical data related to the property,” and performed no testing of his own, Tr. 2929:12-22 (Lowery). The Second Lancon Report added items to the cost estimate “[p]er [Mr. McConnaughay’s] direction at our meeting.” JX 58 (Second Lancon Report) 1. The Second Lancon Report stated that “[t]hese items of work were developed based upon discussions with [Mr. McConnaughay] in regard to [Mr. McConnaughay’s] requirements for repair and restoring the property.” *Id.* Testimony made clear that Mr. Lowery had never “set foot at all in the Grand Acadian property before Grand Acadian retained Lancon,” Tr. 2929:9-11 (Lowery) and believed, incorrectly, that no work had been performed and no heavy equipment had been used on the Leased Property before December 2005, *see id.* at 2928:20-2929:8, when the Lease began, *see supra* Part III.B.3.

#### 5. Restoration Analysis by Mr. Bosecker

After the government cancelled construction of the RV park it had planned for the Leased Property, FEMA retained Mr. David Anthony Bosecker, an engineer employed by the firm Freese & Nichols, Tr. 659:1-660:23, 664:16-665:1 (Bosecker), to evaluate whether the Leased Property required restoration,<sup>55</sup> *see id.* at 675:2-16 (describing Mr. Bosecker’s conclusions).

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<sup>55</sup> Although Mr. Bosecker was hired by the government to evaluate the Leased Property, *see* Tr. 660:18-23, 675:2-16 (Bosecker), Grand Acadian called Mr. Bosecker to testify as an expert witness, *see* Grand’s Witness List, Dkt. No. 114-2, at 1; *cf.* Def.’s Am. List of Trial

In undisputed testimony, Mr. Bosecker described materially misleading statements that Mr. McConnaughay made to Mr. Bosecker and other Freese & Nichols employees about the construction activities that had taken place on Grand Acadian's property. Mr. McConnaughay represented that the Non-Leased Property "had been modified in the same manner as the leased property, up to the point of government involvement in December 2005." Id. at 707:21-708:11. Because of this representation, Mr. Bosecker used the Non-Leased Property "as a reference point" as he determined the original site conditions and the scope of work necessary to restore the Leased Property to its pre-Lease condition. Id. at 712:13-713:1.

Because the Leased Property and the Non-Leased Property had not, in fact, been "modified in the same manner . . . up to the point of government involvement," id. at 707:21-708:11, the Non-Leased Property was not an appropriate reference point. Between November 2005 and December 2005, Grand Acadian had "cleaned all of the debris out of the soils [on the Non-Leased Property] so there would not be any organic matter." JS ¶ 22. Grand Acadian piled and burned this debris and hauled away any debris that did not burn. See supra Part III.A.5.a. Ninety-two truckloads of debris did not burn and were hauled away. See supra Part III.A.5.a. Mr. McConnaughay did not disclose to Freese & Nichols that this debris had been removed from the Non-Leased Property. See Tr. 713:2-15 (Bosecker). By contrast, the organic matter had not been removed from the soil of the Leased Property. See supra Parts III.A.4, III.D.1 (describing clearing and logging activities on the Leased Property).

Mr. Bosecker read the CBK Report and soil conservation maps published by USGS, see Tr. 669:17-24 (Bosecker); supra Part III.A.3 (describing the CBK Report), which led him to expect that he would find silty soil to a depth of two or three feet, underlain by clay, Tr. 681:2-7 (Bosecker).

On or around May 18, 2006, see id. at 674:10-12, Mr. Bosecker "walked around the site two or three times to look at the . . . soil conditions of the site," and then "dug six shallow test pits to look at the . . . subsurface soils," id. at 669:3-12. In the test pits, Mr. Bosecker found subsurface soil conditions different than the CBK Report led him to expect. See id. at 669:25-670:5. In most of the test pits, Mr. Bosecker found organic material and "some clay" mixed into the silt. Id. at 674:19-675:1. Mr. Bosecker concluded "that the top two to three feet of soils had been thoroughly mixed with brush and debris and some charred remains from the brush, as well." Id. at 674:13-18.

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Witnesses, Dkt. No. 143 (not listing Mr. Bosecker among the witnesses defendant expected to call to testify at trial). The court sustained defendant's hearsay objection, raised in a motion in limine, to the introduction into evidence of Mr. Bosecker's written reports to the government--which were also employed as expert reports. See Grand Acadian, 101 Fed. Cl. at 404-06.

Based upon the information that he had at the time, Mr. Bosecker concluded “that the site in its original condition . . . was in a suitable condition for use as an RV park if normal earthwork operations had been taken.” Id. at 709:24-710:3. Mr. Bosecker informed the government “that the soils [had] been mixed thoroughly . . . as a result of FEMA activities,” id. at 687:14-16, and that the Leased Property was “not suitable for development as a mobile home park,” id. at 675:2-8.

Mr. Bosecker concluded that “the biggest issue was” the presence of vegetative debris, which, when it decomposes, can create “soft spots,” or cause pavement or structures built on top of it to “fail.” Id. at 687:17-688:2. Mr. Bosecker testified that, “to build a substantial structure on that property and use the entire property,” he “would recommend that the top two to three feet beneath any structures or pavement be replaced with clean fill.” Id. at 691:7-19.

At the time that Mr. Bosecker developed his initial recommendation, he believed that the information at his disposal was sufficient to develop an opinion regarding subsurface conditions at the beginning of the Lease term. See id. at 684:11-20, 686:4-11. However, after meeting with “some of the personnel that were involved with the project” and receiving letters from others, Mr. Bosecker reached a different conclusion. Id. at 715:9-15.

Mr. Bosecker agreed with the characterization of counsel for defendant that, in light of “additional information,” “there was not, in fact, a reasonable degree of scientific certainty concerning the original site conditions,” including the “extent of mixing of organic debris prior to FEMA’s involvement in December 2005.” Id. at 698:12-700:14. Mr. Bosecker agreed that, because he could not determine the original site condition, he “can no longer stand by” his May 2006 opinions regarding site restoration. Id. at 699:7-22.

Nor is Mr. Bosecker’s conclusion that soil replacement would be necessary “to get [the Leased Property] to developable conditions,” id. at 722:13-723:15, authoritative. Mr. Bosecker did not describe where he had dug test pits or whether they were clustered in one part of the property. Cf. supra Part III.A.2 (discussing flaws in Mr. Hudson’s soil sampling before the Lease); infra Part III.D.7 (discussing flaws in Mr. Hudson’s soil sampling after the government’s construction efforts). Mr. Bosecker has no experience in working in southwest Louisiana and is unfamiliar with “the degree of mixed soil types occurring naturally.” Tr. 699:23-700:9 (Bosecker). Mr. Bosecker performed no testing to determine the organic content or the clay content of the soil. Tr. 3369:3-7 (Arnold); see also Tr. 700:15-18 (Bosecker) (agreeing that he did not “undertake to determine the percentage of organic content in the soil by using any scientific measure”).

Mr. Bosecker did not state how many of his test pits did not contain organic material, see Tr. 674:19-675:1 (Bosecker) (stating only that he found organic material in “most” of the test pits), or whether he found the amount of organic material in every test

pit in which he found organic material to be great enough to interfere with the use of the silt in development. Neither did Mr. Bosecker describe the amount of organic material that he observed below sixteen inches of depth, cf. supra Part III.A.3 (describing Mr. Jones's recommendation in the CBK Report that only silt deeper than sixteen inches below the surface be used because of the organic content of soil closer to the surface), state that the amount of organic material deeper than sixteen inches would interfere with the use of the silt in development, or state that the organic material below sixteen inches of depth could not be removed using a root rake.

Mr. Bosecker's testimony does not persuade the court that restoration is required to return the soil on the Leased Property from its post-Lease condition to its pre-Lease condition or that the Leased Property could not be developed after removing organic materials from the soil in a manner similar to the manner by which organic materials were removed from the soil on the Non-Leased Property. See supra Part III.A.5.a.

#### 6. Fluor's Stormwater Remediation

Before beginning construction at a site in Louisiana larger than five acres, a developer must submit a stormwater pollution prevention plan to the Louisiana Department of Environmental Quality (LDEQ) and secure a stormwater discharge permit (stormwater permit).<sup>56</sup> See Tr. 3840:4-20 (Berg). As a condition for termination of the government's stormwater permit, at least 70% of the surface of the construction site was required to be covered with grass or other ground cover to prevent erosion. See id. at 3860:7-3861:9.

In August and September 2006 Fluor returned to the Leased Property to bring the stormwater controls into compliance with the stormwater permit, activities described at trial as "remediation," see Tr. 800:1-802:16 (Wilson), and performed by P2S, a subsidiary of Fluor, see Tr. 3859:13-23 (Berg).

The remediation activities of P2S were described by Mr. Lamar Dousay, a foreman on Leased Property. See Tr. 2890:24-2891:7 (Dousay). When P2S arrived, drainage ditches were holding water and water on the Leased Property was not draining. Tr. 2884:6-18 (Cloud<sup>57</sup>). P2S filled in the portion of the South Ditch that was on the Leased Property, but did not fill in the East Ditch, the retention pond or the portion of the South Ditch that was on the Non-Leased Property. See JS ¶¶ 63, 66-67. P2S removed

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<sup>56</sup>The court describes the requirements of the stormwater discharge permits (stormwater permits) issued by the Louisiana Department of Environmental Quality (LDEQ) only as explained by witnesses at trial and solely for the purpose of describing Fluor's actions after the government's order to stop work on the Leased Property.

<sup>57</sup>Mr. Christopher A. Cloud was employed by P2S as a project manager. Tr. 2868:24-2869:7 (Cloud).

the silt fences and hay bales, see Tr. 2900:4-8 (Dousay), and the mud from the bottom of the portion of the South Ditch that it filled, see id. at 2894:8-19; JX 63 (Sept. 2006 Photos) 1442. P2S placed dry dirt, see Tr. 2893:9-24 (Dousay); JX 63 (Sept. 2006 Photos) 1389, in layers--also called lifts--fifteen inches thick, compacting each layer before placing the next layer, see Tr. 2875:14-20 (Cloud); JX 63 (Sept. 2006 Photos) 1483-89 (showing a layer of dirt being placed into the South Ditch on top of a smooth, compacted layer).

P2S also leveled the areas at the northern and southern ends of the Leased Property--including the area where the South Ditch was located on the Leased Property--and planted grass on the leveled areas. See Tr. 2900:4-9 (Dousay); JX 63 (Sept. 2006 Photos) 1596 (showing the southern end of the Leased Property, which had been leveled and covered with alternating sections of sod and erosion control blankets); Tr. 3907:24-3908:14 (Berg) (describing same).

As it performed remediation, P2S stacked in piles some of the larger “roots, tree trunks, stumps, limbs, branches [and] other debris” it encountered on the Leased Property. Tr. 2892:13-17 (Dousay); see also Tr. 3937:19-22 (Berg) (agreeing that P2S piled the debris it encountered); JX 66 (Oct. 2006 Photos) 1765, 1802, 1916-17 (showing piles of debris). As a result, there was substantially less debris on the surface of the Leased Property when P2S finished its work. See Tr. 3907:15-23, 3927:9-16 (Berg).

Aerial photographs taken on December 29, 2006--shortly after the end of the Lease--show green areas where P2S had planted grass at the northern and southern ends of the Leased Property and along a narrow strip circling the retention pond and continuing north to Mosswood Road along the eastern edge of the Leased Property. See JX 75 (Dec. 29, 2006 Aerial Photos) 2069-75.

Except for stacking debris, P2S performed no work on the Leased Property other than the remediation required by the stormwater permit. See Tr. 808:4-7 (Wilson); Tr. 3940:16-25 (Berg). Ms. Heather Berg, an environmental scientist employed by TRS, also a subsidiary of Fluor, see Tr. 3838:11-18 (Berg), ensured that P2S complied with the stormwater pollution prevention plan and advised P2S on the process of controlling erosion on the Leased Property, see id. at 3853:9-23. Ms. Berg is not a construction expert. Id. at 3857:8. To ensure compliance with the stormwater pollution prevention plan, Ms. Berg verified that no erosion was taking place; filled out reports on a weekly basis and after rainfall greater than one-half inch; and advised P2S on the location, maintenance and replacement of erosion controls such as silt fences and straw bales.<sup>58</sup> See id. at 3853:9-18. To attain the 70% groundcover required by LDEQ, P2S planted

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<sup>58</sup>Silt fences and hay bales prevent erosion by slowing the runoff of rainwater, causing sediment to settle rather than being carried away. See Tr. 3854:4-24 (Berg).

grass, using a combination of sod, erosion control blankets<sup>59</sup> and grass seed covered with straw. See id. at 3878:25-3879:6.

On November 8, 2006 Fluor requested termination of the government's stormwater permit, see id. at 3920:21-24; JX 72 (Notice of Termination), a request that the Louisiana Department of Environmental Quality granted by letter dated December 18, 2006, see Tr. 3925:15-22 (Berg); JX 76 (Letter Terminating Permit).

#### 7. The Second Summit Soil Boring Report

On October 5, 2006, after Grand Acadian filed its certified claims with the government, see supra Part I, Mr. Hudson provided Grand Acadian with a soil boring report (the Second Summit Report), see PX 52 (Second Summit Report) 1, which purports to determine how soil conditions had changed on the Leased Property since the First Summit Report, see Tr. 3224:20-3225:1 (Hudson). Mr. Hudson provided the Second Summit Report, like the First Summit Report, at no charge, as a favor to Mr. McConnaughay. See id. at 3243:20-3244:6.

The Second Summit Report contains a one-page narrative section and a description of the material found in each of six soil borings. See PX 52 (Second Summit Report) 1-10. The description of each soil boring was based on visual classification rather than laboratory analysis. See Tr. 3369:15-20 (Arnold). The Second Summit Report describes the first and second soil borings as "topsoil fill w/ roots and debris" to depths of 4 feet and 3.5 feet, respectively. See PX 52 (Second Summit Report) 5-6. The first soil boring contained "[s]tiff, natural tan & light gray clay . . . at 4 feet." Id. at 5. The second soil boring was terminated due to waning daylight before Mr. Hudson believed that he had reached the clay layer. See id. at 6.

The third soil boring contained "[t]opsoil fill w/ roots and debris to a depth of 2.0 feet," where the sample "[t]ransition[ed] to dark gray silty clay." Id. at 7. The fourth soil boring contained "[t]opsoil fill w/ roots and debris to a depth of 1.5 feet," the depth at which it "terminated . . . due to [a] cave-in." Id. at 8.

Mr. Hudson testified that two of the soil borings (the fifth and sixth soil borings) were located in areas that he believed were relatively undisturbed by construction activities. See Tr. 3226:13-3227:7 (Hudson). One of these soil borings contained "[c]lean topsoil to a [ ]depth of 18 [inches]," where the sample "[t]ransition[ed] to stiff gray & tan silty clay." PX 52 (Second Summit Report) 9. The other contained "[c]lean topsoil to a [ ]depth of 18 [inches] and "[s]tiff natural tan & gray clay @ 18 [inches]." Id. at 10. Mr. Hudson wrote that the results of the fifth and six soil borings were "consistent

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<sup>59</sup>Erosion control blankets are composed of a fibrous material embedded with grass seeds. See id. at 3855:16-3856:11. The fibrous material absorbs rainwater, preventing erosion, and the grass seeds sprout, growing through the fibrous material. See id.

with the original hand borings I performed prior to the beginning of the [p]ark project when the site was still wooded.” Id. at 1.

Mr. Hudson wrote that “[t]he surface is crusted over (dry/dessicated) topsoil and shows heavy deflection under pick-up truck weight,” and that “the conditions worsen further south.” Id. Based upon his observations, Mr. Hudson concluded, “This is indicative of a very poor attempt to recondition this site.” Id. Mr. Hudson stated that the Leased Property could require “2 to 5+ feet of excavation.” Id.

The court finds unpersuasive Mr. Hudson’s assumption that any change in soil conditions between the First Summit Report and the Second Summit Report can be attributed to the government’s activities. See, e.g., Tr. 3225:10-15 (Hudson) (describing the two areas sampled for the Second Summit Report as areas disturbed by Fluor and “background” areas not disturbed by Fluor). Mr. Jones, plaintiff’s expert witness in geotechnical engineering, stated in the CBK Report that clearing operations could introduce a “significant amount of organic matter,” rendering the silty soil unsuitable for use as soil cement. JX 10 (CBK Report) 4. Mr. Hudson did not collect soil borings to examine the amount of organic material mixed into the soil during the several months that Grand Acadian’s contractors, Kinder Timber and AAA, spent clearing and logging Grand Acadian’s sixty-acre property. See JS ¶ 8 (“Between July 2005 and January 9, 2006, no soil borings were taken from Grand Acadian’s 60-acre property.”); cf. supra Part III.A.4 (describing logging and clearing by Grand Acadian’s contractors); JS ¶ 7 (stating that AAA conducted clearing operations from late July 2005 through approximately October 7, 2005). Mr. Hudson did not observe any of the work that took place on the Leased Property, as he agreed in a portion of his deposition read into the record at trial:

Question: Did you observe any work being done on the west side of the site ever?

Answer: No, not in specific, actually observing it. I may have seen something going on over there, but I didn’t pay any attention. I mean, I was out there one day watching them do a bunch of grubbing or clearing or whatever.

Tr. 3267:4-18 (Hudson) (acknowledging prior deposition testimony). Mr. Hudson did not know what work the government’s contractors had performed on the Leased Property, see id. at 3266:18-21, and did not describe speaking to the government’s contractors or anyone other than Mr. McConnaughay about the soil conditions that existed when the government’s contractors arrived. Therefore, Mr. Hudson could not have known what portion of any change in soil conditions was attributable to the government’s contractors and what portion of any change was attributable to clearing and logging by Grand Acadian’s contractors before the beginning of the Lease.

The court also finds unpersuasive Mr. Hudson’s conclusions about the change in soil conditions on the Leased Property. Describing the soil borings, Mr. Hudson wrote that there was “continued cave-in at the 18 inch depth.” PX 52 (Second Summit Report) 1; see also Tr. 3228:7-10 (Hudson) (“[W]e would advance the augur and try to take a sample, and the holes would cave in due to water conditions. The site was holding water at 18 inches . . .”). In uncontradicted testimony, defendant’s expert witness in geotechnical engineering, Mr. Arnold, explained that when there are cave-ins during the collection of a soil boring, the soil boring cannot be considered a reliable source of information about the materials present and the depths at which they occur:

[The results] can totally mislead you, and therefore the results would be viewed as utterly inaccurate. That’s called fall-in and once it caves in, it has to go somewhere, and that is usually to the bottom of your hole.

And if you sample through that, you may confuse it with the material that fell in at that depth . . . . That would be called a form of cross-contamination of a sample.

. . . .

The material up in the upper stratum might wind up in the lower stratum, such that a person would interpret that to mean that the upper stratum was much deeper than it actually was.

Tr. 3373:10-3374:2 (Arnold).

Mr. Hudson appeared to concede the insufficiency of his soil borings in the Second Summit Report, writing, “Due to the saturated condition of the upper 18 inches of fill and the necessity to case the hole, a visual review of the site conditions by all parties concerned should be conducted and test pits performed with a track-hoe.” PX 52 (Second Summit Report) 1; see also Tr. 3234:13-19 (Hudson) (“Q Mr. Hudson, did you recommend that pits actually be dug? A Yes, I did. Q Why? A To determine the depth of disturbed soil conditions. I couldn’t do it with the augur bo[ring] rig that I had.”).

Although geotechnical engineers develop boring plans to guide the collection of soil borings, Tr. 913:24-914:3 (Jones), the engineer hired by Grand Acadian, Mr. Jones, did not design a boring plan to guide drilling, id. at 914:4-6, and Mr. Hudson “had no role in the selection” of the boring locations, Tr. 3261:21-24 (Hudson). In the case of Mr. Hudson’s boring locations, Mr. McConnaughay directed Mr. Hudson where to collect the samples.<sup>60</sup> See Tr. 448:2-16 (McConnaughay). Mr. McConnaughay has been

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<sup>60</sup>Mr. McConnaughay testified that he chose the northernmost area of the Leased Property because “this is the area that was allegedly fixed and restored” and he wanted to document its condition. Tr. 448:2-16 (McConnaughay); see also id. at 447:10-15 (stating same). Mr. McConnaughay appears to have misunderstood the nature of the remediation P2S

shown to have made materially misleading statements about the comparative conditions of the Leased Property and the Non-Leased Property to Mr. Bosecker, the engineer retained by FEMA after the government cancelled construction and who testified at trial as plaintiff's expert witness in geotechnical engineering. See supra Part III.D.5. No evidence was presented that the boring locations were distributed at regular intervals.<sup>61</sup> Therefore, the fact that Mr. Hudson's soil boring locations were chosen by Mr. McConnaughay rather than by Mr. Hudson or, better, by a geotechnical or construction engineer, significantly undermines their exemplary value. Samples collected in burn piles or debris piles, see infra Part III.D.8.a (describing two test pits that were excavated, at Mr. McConnaughay's direction, at a burn pile and a pile of stumps), or collected from structural features such as drainage ditches, would not be representative of general soil conditions at the Leased Property, see Tr. 3551:15-3552:8 (Krielow) (stating that the clay layer may have been penetrated by construction equipment "in the area of [the] retention pond and ditches," and "where[ever] there w[ere] burn piles"). Mr. Hudson appeared to believe that he collected samples in areas that had been excavated and backfilled by Fluor, see Tr. 3225:10-15, 3232:9-14 (Hudson), from which the court infers that the locations chosen by Mr. McConnaughay may have included temporary drainage ditches filled during the grading process, the northernmost section of the East Ditch, the road that Fluor began to build, or burn piles, see supra Parts III.D.1, III.D.6 (describing Fluor's construction activities and stormwater remediation).

And, significantly, Mr. Hudson collected all of his soil borings within 100 feet of one another, which Mr. Hudson agreed represents "a very small portion of the property." Tr. 3263:16-3264:9 (Hudson); see also PX 52 (Second Summit Report) 1 ("These sample locations represent a very small portion of the site."); cf. JX 4 (Wetlands Determination) 2 (describing the dimensions of Grand Acadian's sixty-acre property as approximately 1,325 feet from east to west and 1,975 feet from north to south). Asked to circle on an aerial photograph of the Leased Property the area where the borings were collected, Mr. Hudson circled an area at the northernmost edge of the Leased Property, where the ground had been leveled and planted with grass by P2S. See JX 75A (Aerial Photo Marked by Mr. Hudson); Tr. 3285:19-3289:19 (Hudson); cf. supra Part III.D.6 (discussing an area at the north end of the property leveled and planted with grass by P2S).

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performed on the Leased Property, which addressed the requirements of the stormwater permit rather than subsurface conditions. See supra Part III.D.6; Tr. 802:19-23 (Wilson) (Q During the period that you were there, was part of your job to restore the property? A I was never told to restore the property. What we were trying to do was meet the requirements of the storm water permit.").

<sup>61</sup>By contrast, the locations of the soil borings collected by SEI, for instance, were staked at regular intervals in a grid, with slightly more than one soil boring conducted per acre of the Leased Property, JX 44 (SEI Report) 2; see supra Part III.D.2 (describing the SEI Report).

The evidence does not support Mr. Hudson's assumption that the condition of the northernmost section of the Leased Property would have been consistent with the condition of the rest of the Leased Property. In addition to leveling and planting grass in this area, supra Part III.D.6, Kinder Timber, the company retained by Grand Acadian to log Grand Acadian's property, created a loading area on the northern end of Grand Acadian's property, where it positioned its equipment and where it dragged, de-limbed and loaded into trucks the 1,085 tons of timber it removed, see supra Part III.A.4. At least one of Fluor's subcontractors, Goodrich Equipment, created a staging area for its equipment on the northern end of the Leased Property. See Tr. 1728:11-1730:5 (Beck). Mr. Hudson did not conduct soil borings further south to verify that the soil borings he did collect were consistent with the rest of the Leased Property.<sup>62</sup> See JX 75A (Aerial Photo marked by Mr. Hudson).

When studying the soil conditions on Grand Acadian's sixty-acre property before construction began, Mr. Hudson composited the results of fifteen to twenty soil borings. See supra Part III.A.2 (describing the First Summit Report). Defendant's expert witness in geotechnical engineering, Mr. Arnold, testified that in his own engineering practice and in the practice of many of his peers, it would be typical to perform one soil boring per acre when assessing soil conditions, possibly conducting additional samples in areas of interest. See Tr. 3363:13-24 (Arnold). Plaintiff's expert witness in geotechnical engineering, Mr. Jones, testified that greater variation in subsurface conditions can occur when the soil has been disturbed. See 892:3-893:8, 924:13-20 (Jones). Here, where the subsurface would have been affected by a sequence of clearing, logging and construction, it appears to the court that more than one soil boring per acre would likely have been necessary to characterize properly the soil conditions.

The size of the Leased Property is 27.4 acres. JS ¶ 34. To prepare the Second Summit Report, however, Mr. Hudson collected only four soil borings from portions of the Leased Property affected by clearing and logging activities by Grand Acadian, as well as by construction,<sup>63</sup> only three of which were deeper than eighteen inches. See PX 52

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<sup>62</sup>Mr. Hudson appeared to suggest in his testimony that he was unable to conduct planned soil borings further south because soil conditions were impassable for his truck-mounted augur rig. See Tr. 3227:24-3228:9 (Hudson) (stating that "at that time, I had an old truck augur rig"); id. at 3232:9-14 ("You couldn't drive a truck out because it was rutting and pumping to the point where the truck would have gotten stuck."); id. at 3233:2-4 ("So again the site conditions were poor to the point where we could not get where we needed to get to do the borings."). However, on cross-examination, Mr. Hudson agreed that he collected the samples with a hand augur that is not mounted on a truck and does not require a truck to operate. See id. at 3294:20-3295:8. Mr. Hudson testified that the hand augur is "hand equipment" that weighs two pounds and can easily be carried. Id.

<sup>63</sup>The fifth and sixth soil borings were collected in a small stand of trees--described as a buffer area--between the Leased Property and neighboring buildings, that remained undisturbed. See id. at 3241:11-3242:10.

(Second Summit Report) 5-10. Of the three borings deeper than eighteen inches, one located “dark gray silty clay” at a depth of two feet, see id. at 7, a depth consistent with Mr. Hudson’s characterization of site conditions before construction began, see supra Part III.A.2. Mr. Hudson did not measure the organic content of the soil. See Tr. 3265:16-24 (Hudson).

Mr. Hudson failed to distinguish among changes in soil conditions which resulted from the government’s activities or from the clearing and logging performed by Grand Acadian. Furthermore, in light of the cave-ins that occurred during Mr. Hudson’s soil borings, the selection of boring locations by Mr. McConnaughay rather than an engineer or other geotechnical personnel, the limited number of soil borings and the restricted area in which they were collected, as well as the failure to measure the organic content or the clay content of the soil, the court finds Mr. Hudson’s conclusion that, on October 5, 2006 the Leased Property was characterized by poor site conditions to a depth of two to five feet or more, see PX 52 (Second Summit Report) 1, to be unsupported.

#### 8. Restoration Analysis by Mr. Prochaska

In 2008 plaintiff’s expert witness in geotechnical engineering, Mr. Prochaska, visited the Leased Property three times. Mr. Prochaska viewed the Leased Property for the first time on February 18, 2008, observed the digging of test pits and a test trench on November 3, 2008 and observed the collection of soil borings on November 13, 2008. See Tr. 1219:23-1220:8, 1281:3-8 (Prochaska). Defendant’s expert witness in geotechnical engineering, Mr. Arnold, was also present on November 3, 2008 and November 13, 2008. See Tr. 3379:1-4 (Arnold).

As with the locations where Mr. Hudson conducted his second set of soil borings, see supra Part III.D.7, the locations of the test pits and soil borings had already been staked when Mr. Prochaska arrived, see Tr. 1220:10-16 (Prochaska), from which the court infers that Mr. McConnaughay--rather than an engineer or other geotechnical personnel--again chose the locations where sampling would be performed.

#### a. Test Pits and Trench

Eight test pits were dug on the Leased Property. See id. at 1303:7-10. Mr. Prochaska testified that the test pits “were scattered over the FEMA side of the site, starting near boring 8 and kind of came around to the north and then along the east side and then near the south side of the site,” id. at 1227:13-18, but no vicinity sketch or detailed description of the location of the test pits was provided to the court. A video recording of the digging of the test pits was played at trial. See Tr. 1228:1-7 (plaintiff’s counsel); Tr. 1230:8-11 (colloquy between the court and plaintiff’s counsel); PX 178 (Test Pit Video).

Two of the eight test pits, test pit four and test pit eight, cannot accurately be characterized as pits because they did not penetrate the surface of the soil. Mr. Prochaska agreed that “test pit number 4 [was] several feet above the ground in a burn pile.” Tr. 1303:11-14 (Prochaska); see also id. at 1231:1 (“[N]umber 4 was in a burn pile for sure.”). Test pit eight “was not an actual pit.” Id. at 1345:13-17.

Mr. Arnold, defendant’s expert witness in geotechnical engineering, described the volume of organic material visible in the video of the six test pits that penetrated the surface of the soil:

What I saw in those test pits was very little material. I think I characterized it as hardly more than you could put in several wheelbarr[ows] and take off the site, and where there might have been a larger piece that was seen in some of the videos, that was typically at or near ground surface within the upper foot.

Tr. 3382:22-3383:3 (Arnold). As depicted in the video, the organic matter present in the test pits was sparse<sup>64</sup> and was concentrated on and, apparently, near the surface of the soil. See PX 178 (Test Pit Video). In particular, so-called “test pit” eight was “just a big pile of stumps,” Tr. 1306:18-1307:12 (Prochaska) (acknowledging prior deposition testimony), which “tells you nothing” about subsurface conditions at the Leased Property, Tr. 3381:18-23 (Arnold).

The trench was approximately 200 feet long and two feet deep, and was located in the “northwest quadrant” of the Leased Property. Tr. 1284:8-1285:3 (Prochaska). The excavation of the trench is not shown in the video recording, see PX 178 (Test Pit Video), but several photographs of the trench were admitted into evidence, see PX 178 (Prochaska Photos<sup>65</sup>) passim. Mr. Prochaska testified that “some areas [of the trench] had some significant wood [and] other areas had little wood.” Tr. 1285:4-6 (Prochaska). Mr. Prochaska did not state whether any of the organic debris that he observed in the trench was at a depth greater than sixteen inches (the depth below which the CBK Report recommended collecting silty soil for use in soil cement). See supra Part III.A.3 (describing the recommendation of the CBK Report that approximately sixteen inches of soil be removed and used for non-structural purposes). The photographs show pieces of

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<sup>64</sup>Mr. Prochaska testified that test pit one “was relatively clear of wood,” Tr. 1301:21-24 (Prochaska), and that in test pit two, “there was a limited number” of pieces of wood, id. at 1302:1-4. Mr. Prochaska did not describe the amount of wood visible in each of the other test pits that penetrated the surface of the soil. Cf. id. at 1302:24-1303:2 (stating that he did not remember the number of pieces of wood in test pit three); id. at 1305:1-16 (stating that he did not know the number of pieces of wood in test pits five, six or seven).

<sup>65</sup>PX 178 includes both a video recording and photographs. See Tr. 1281:9-10 (plaintiff’s counsel) (moving “to admit PX-178, inclusive of the pictures”).

wood at the surface of the ground, see PX 178 (Prochaska Photos) 0554, next to the trench, see id. at 0556-62, 0564, and in the bucket of an excavator, see id. at 0553, as well as wood that appears to have fallen into the trench, see id. at 0555. However, the court is unable to discern in the photographs--particularly in the absence of testimony of a witness specifically pointing it out--wood or other debris beneath the surface of the trench or at a depth greater than sixteen inches.

In portions of his deposition read into the record at trial, Mr. Prochaska agreed that the organic materials found in the test pits and the trench could be removed by root raking.<sup>66</sup> See Tr. 1313:2-25 (Prochaska) (reading the following portion of Mr. Prochaska's deposition regarding the test pits: "And again, these materials that we just saw are of a size that you would expect to be able to remove in the root raking process? Answer: Yes, sir"); id. at 1315:11-25 (reading the following portion of Mr. Prochaska's deposition regarding the trench: "Could those logs be root raked as part of the developing process? Answer: Yes"). Mr. Prochaska testified at trial that any organic material located deeper than the tines of the root rake could reach can be removed by treating the soil in lifts, see id. at 1343:9-14, 1354:17-23, a process that the court concludes would be facilitated by the planned removal of the uppermost layer of soil for use in non-structural areas, see supra Part III.A.3 (describing the CBK Report's recommendation that approximately sixteen inches of soil be removed and used for non-structural purposes). There was no testimony that root raking of the Leased Property would be more difficult than the root raking performed on the Non-Leased Property. See generally supra Part III.A.5.a (describing the root raking performed on the Non-Leased Property).

b. Soil Borings

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<sup>66</sup>Mr. Prochaska described the process of root raking debris out of the soil in a portion of his deposition testimony read into the record at trial:

Question: It's got more organic material in it?

Answer: Yeah, it's got the big stuff in it. It'd have to be gotten out, the limbs and the big stuff.

Question: And how would you go about doing that, getting that material out?

Answer: You'd have to go in with a dozer equipped with a root rake, which is teeth hanging below the blade. It brings that stuff up. And then you'd have to pick it up manually and pile it and then load it in trucks and haul it off. It's an expensive proposition.

Tr. 1314:8-1315:6 (Prochaska) (acknowledging prior deposition testimony). Grand Acadian performed a similar process of root raking and hauling debris to clear organic material from the soil on the Non-Leased Property. See supra Part III.A.5.a.

Eight soil borings were collected<sup>67</sup> on Grand Acadian's sixty-acre property which, Mr. Prochaska agreed on direct examination, was insufficient "to test the soil condition." Tr. 1220:10-19 (Prochaska). Asked whether eight soil borings was sufficient to compare the Leased Property and the Non-Leased Property, Mr. Prochaska testified that he "would like to have had more but eight--eight was what was set up."<sup>68</sup> Id. at 1220:17-1221:18.

Three soil borings were conducted on the Non-Leased Property (soil borings one through three) and five soil borings (soil borings four through eight) were conducted on the Leased Property, see id. at 1222:1-2, one of which (soil boring eight) was conducted in an undisturbed "buffer zone" on the western edge of the Leased Property, adjacent to a neighboring subdivision, see id. at 1225:16-22. Mr. Prochaska recorded the location of each soil boring with a global positioning system (GPS) and recorded the "general locations" in a boring plan, see id. at 1223:17-25, but neither the boring plan nor the GPS coordinates were provided to the court or described in detail at trial.

In soil borings four, five and eight, Mr. Prochaska did not note the presence of any organic debris. See id. at 1300:23-1301:4. In soil boring seven, Mr. Prochaska observed "a 1 [inch] diameter wood in the sample," which the court understands to refer to a single piece of wood one inch in diameter. See id. at 1300:12-22. Mr. Prochaska did not state whether soil boring six contained organic material.

Notwithstanding the near absence of organic debris in the soil borings and the scarcity of organic debris below six inches of depth in the test pits, Mr. Prochaska testified, "We found various depths of disturbed soil where you had mixtures of the soil, along with wood debris, ash, logs at the varying depths, one . . . was over three feet deep. Others [were] normally around two and a half to three feet." Id. at 1226:13-19. Mr. Prochaska testified that "buried and burned debris" was present on the Leased Property. See id. at 1231:6. The foregoing testimony is inconsistent with the evidence of the soil borings, test pits, and trench described by Mr. Prochaska.

At trial, Mr. Prochaska testified that it is not possible to "develop the FEMA side of Grand Acadian's property into an RV park today consistent with CBK's recommendations." Id. at 1326:6-9. Mr. Prochaska recommended that the uppermost two and one-half feet of soil at the Leased Property be removed and replaced. See id. at 1332:3-9, 1349:19-22. However, Mr. Prochaska testified differently in his deposition. Asked "Can I develop this--the FEMA side of this site into an RV park consistent with

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<sup>67</sup>Mr. Prochaska testified that he observed while another individual (not identified at trial) collected the soil borings. See Tr. 1223:6-7 (Prochaska).

<sup>68</sup>Asked a second time by plaintiff's counsel whether eight soil borings would be sufficient "to give you a comparison" between the Leased and Non-Leased Properties, Mr. Prochaska contradicted himself, stating that eight soil borings would be sufficient. See id. at 1221:20-23.

the CBK recommendations today?” Mr. Prochaska stated, “You can,” provided that construction is limited to dry portions of the year. Id. at 1326:10-1327:15 (acknowledging prior deposition testimony). In light of this unexplained contradiction in Mr. Prochaska’s testimony, the court discounts Mr. Prochaska’s trial testimony that the Leased Property cannot be developed consistent with the recommendations in the CBK Report.

#### IV. Disposition of Grand Acadian’s Claims

##### A. Grand Acadian’s Claim for Soil Replacement

##### 1. Soil Replacement Evidence Overview

Plaintiff argues that “the Property was in a condition suitable for development, without bringing in materials from offsite, at the time of the commencement of the Lease.” Pl.’s Br. 7. Plaintiff contends that the government “altered the soil composition of the FEMA west half during the first days of construction. . . . Within a week the soil was ruined. Co-mingled soil types and the extensive infusion of organic materials rendered it unusable.” Id. at 10.

Defendant responds that “[a]t the beginning of the lease in December 2005, the subsurface of the leased property was comprised of unstable wetlands and it contained unknown quantities of organic and clay content.” Def.’s Resp. 3. Defendant argues that “it is unknown whether the soils on the leased property in December 2005 actually could have been [used in construction].” Id. at 8. Defendant contends that the evidence does not support plaintiff’s argument that Fluor “thoroughly mixed the soil types.” Id. at 23 (quoting Pl.’s Br. 12, 20). Defendant argues that there is no evidence of additional organic material or clay in the soil at the end of the Lease term. See id. at 19-24. For the reasons below, the court finds that defendant is correct.

##### a. The Parties’ Arguments Regarding the Condition of the Leased Property at the Beginning of the Lease

Citing the First Summit Report and the CBK Report, plaintiff argues that at the beginning of the Lease term, “[b]oth Hudson and Jones confirmed that the existing soils on the Property were suitable for use in construction, without the need for bringing in soils from off site.” Pl.’s Resp. 1-2. Defendant responds that “Mr. Hudson testified to his personal opinion that ‘the soils above the clay are suitable for cement or [fly ash] treatment for stabilization purposes,’ but on cross examination he admitted that is ‘an engineering judgment’ beyond his expertise and he necessarily deferred to Mr. Jones of CBK, who is a qualified geotechnical engineer.” Def.’s Resp. 7 (quoting Tr. 3220:8-3221:12, 3269:19-3270:17 (Hudson)).

Defendant correctly argues that, according to the testimony of plaintiff's own expert witnesses, further testing was required after clearing and logging operations to determine whether the silty soils on the Leased Property could be used for construction. See Def.'s Resp. 7-8. Defendant notes Mr. Jones's testimony that "to make a determination of whether particular soil is suitable for use in soil cement requires the presence of 'qualified geotechnical personnel . . . to visually examine the materials and select the ones . . . that are suitable for mixing' as soil cement." Id. at 7 (omissions in original) (quoting and citing Tr. 893:11-899:25 (Jones)). Defendant also points to Mr. Jones's testimony that "[i]f you have a site that is heavily wooded and you clear it, you're going to have roots and organic matter in the silty soils to some depth,' and, 'if that clearing results in a significant amount of organic matter, stirred into the silty soils, then they may not be usable for soil cement base construction; probably wouldn't.'" Id. at 8 (alteration in original) (quoting Tr. 940:24-941:25 (Jones)). Mr. Prochaska, another of plaintiff's expert witnesses in geotechnical engineering, also testified that testing was required to determine whether the organic content and grain size distribution of the silty soils were compatible with use as soil cement. See supra Part III.A.3; Def.'s Resp. 8. Defendant is correct that "no one conducted that testing" before the Lease began. Def.'s Resp. 8; see supra Parts III.A-B. What is certain is that the Leased Property had been an undeveloped, wooded site, see supra Part III.A, that it had been cleared and logged, see supra Part III.A.4, and that, as Mr. Jones testified, after clearing of a wooded property, "you're going to have roots and organic matter in the silty soils to some depth," Tr. 941:1-7 (Jones).

Plaintiff also argues that "the Property had been specifically selected and purchased for development as an RV Park." Pl.'s Br. 2. Defendant is correct, however, that "Mr. McConnaughay has no experience in geotechnical science or wetlands and he has never personally conducted any testing of soil conditions." Def.'s Resp. 3 (citing Tr. 465:19-472:23 (McConnaughay)). Grand Acadian's selection of its sixty-acre property for use as an RV park does not support plaintiff's argument about the condition of the soils on the Leased Property at the beginning of the Lease.

Plaintiff argues that Fluor and "[g]overnment scientists" determined that the Leased Property was suitable for construction at the beginning of the Lease term. Pl.'s Resp. 4-7. Defendant is correct, however, that "[t]he parties have stipulated . . . that Fluor conducted a site assessment in September 2005 'from looking at the surface,' but Fluor 'did not conduct any subsurface testing on Grand Acadian's 60-acre property.'" Def.'s Resp. 5-6 (quoting JS ¶ 12). Defendant notes that "[t]here is no evidence that the Government or Fluor took any soil borings or analyzed the subsurface soil conditions prior to January 10, 2006, the fourth day of construction." Id. at 6.

The "government scientists" whose testimony plaintiff cites are Dr. Jarboe and Ms. Kilner, see Pl.'s Resp. 4-5, both of whom were involved in environmental and regulatory compliance rather than construction, see Def.'s Resp. 4-5. Plaintiff argues that

“Dr. Jarboe noted in his report and confirmed at trial that based upon his inspection[,] most of the preparatory work was complete, and only minimal effort would be required for the construction of FEMA[’s] RV park.” Pl.’s Br. 3-4 (citing Tr. 1134, 1158-60 (Jarboe); JX 18 (Trip Report)). Defendant is correct, however, that Dr. Jarboe is “a natural resource biologist with no expertise in geotechnical matters.” Def.’s Resp. 4. “Dr. Jarboe testified . . . that he only conducted a ‘cursory evaluation’ of soil conditions by walking on the surface of the site, his ‘assessment was not as an engineer,’ and he ‘doubt[ed] that he would have written that sentence’ in his report if he had been assessing surface conditions on the west half of the Grand Acadian property in December 2005.” Id. (alteration and omission in original) (quoting and citing Tr. 1131:23-1133:5, 1142:23-1143:23, 1176:1-1177:4 (Jarboe)). Ms. Kilner’s role was to conduct environmental reviews, which she described as ensuring compliance with “a suite of environmental and historic preservation laws that get triggered with federal action.” See Tr. 1767:2-12 (Kilner).

Defendant correctly notes that, although “Ms. Kilner was not involved in conducting a site assessment, . . . the unsuitability of the soil conditions during her November 20, 2005 visit was apparent given her ‘prior experience and the conditions of the site.’” Def.’s Resp. 5 (quoting and citing Tr. 1772:14-23, 1775:18-1776:13 (Kilner)). Ms. Kilner described this observation in the following testimony:

Q Did you have any other concerns about this project other than what we’ve talked about so far?

A Well, my impression from looking at the Corps of Engineers environmental evaluation and in particular the soil descriptions as far as drainage characteristics, followed by the brief site visit that I did there, my impression was that it probably [would] be a difficult site to develop in terms of dealing with the soil conditions and possibly expensive. But I also want to clarify that was not my role. That was just my impression based on prior experience and the conditions of the site.

Q What do you mean by you “thought it would be expensive”?

A Well, in order to set the mobile home pads and the infrastructure inside the site, you really need to have a stable platform to build on, and the soil conditions at the site basically were not conducive to just developing it as is, so there needed to be more site prep work and on 30 acres that can be a lot of work.

Tr. 1775:18-1776:13 (Kilner).

Plaintiff argues that “[Corps] Botanist, Gary Couret, testified that the entire 60 acre Property included some percentage of legally protected wetland, but nonetheless he

recommended that a permit for the construction of an RV Park be granted and his recommendation was accepted.” Pl.’s Br. 2 (citing Tr. 1657, 1686, 1689 (Courret); JX 1 (July 25, 2004 Aerial Photo)). Defendant is correct, however, that “Mr. Courret conducted only a wetlands delineation assessment, not a suitability assessment of the soils for use as an RV Park.” Def.’s Resp. 3 (citing Tr. 1655:16-1662:11 (Courret)); see also supra Part III.A.1 (describing Grand Acadian’s 2004 applications for a wetland determination and a wetland permit). “Grand Acadian’s proposed development would have destroyed the wetlands on the property, and the Corps merely granted regulatory permission for Grand Acadian to proceed with its development plans upon satisfying a wetlands mitigation requirement.” Id. (citing JS ¶ 6).

b. The Parties’ Arguments Regarding the Condition of the Leased Property at the End of the Lease

Plaintiff contends that “[t]he Government’s activities of incorporating debris down into the top 3-4 fee[t] of soil and mixing the soil types has made use of the soil on the FEMA half impossible.” Pl.’s Resp. 27. Defendant responds that there is no evidence that the government’s contractors increased the amount of clay or organic material in the soil. See Def.’s Resp. 19-24.

According to plaintiff, Mr. McDowell, the owner of SEI, “confirmed that as of January 11, 2006, the upper two (2) to four (4) feet of soil had ‘significant organic content’ that was plainly visible across a majority of the site and confirmed in laboratory tests.”<sup>69</sup> Pl.’s Resp. 12 (citing Tr. 2843-47, 2856-57 (McDowell); JX 41 (SEI Preliminary Report); JX 44 (SEI Report)). Soil borings conducted by Mr. McDowell “revealed the thorough mixing of the underlying clay base with the silty soil in every test location and at every depth between the surface and six feet deep.” Id. (citing Tr. 2852-53 (McDowell); JX 41 (SEI Preliminary Report); JX 44 (SEI Report)). “Based upon these results, Mr. McDowell concluded that the soil was not suitable for use in construction and recommend[ed] that the cheapest means of restoration would be removal and replacement of the soil with structural fill.” Id. (citing JX 41 (SEI Preliminary Report); JX 44 (SEI Report)).

Plaintiff misinterprets both Mr. McDowell’s observations and his recommendations for remediation of soil conditions. The SEI Report described the surficial soils as containing “significant organic content,” but did not state that the organic material extended to a depth of two to four feet. See supra Part III.D.2. Of the

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<sup>69</sup>Grand Acadian argues that “the subsurface soils of the FEMA west half exist today in substantially the same condition as they were on January 11, 2006, when FEMA’s geotechnical engineer recommended that they be removed and replaced.” Pl.’s Br. 16. The court therefore views Grand Acadian’s position to be that any damage to soil of the Leased Property was substantially complete by January 11, 2006.

sixteen soil borings that SEI subjected to laboratory testing, organic material was visible in eleven soil borings. See supra Part III.D.2. In eight of these soil borings, the organic material was described as being present to a depth between zero and two feet, but the SEI Report did not note the precise depth at which the organic material ended. See supra Part III.D.2 (quoting the following portion of Mr. McDowell’s testimony: “Q Does this chart tell me whether those organics were found on top of the dirt or two feet down? A No. Q Okay. So somewhere between 0-2 feet? A Right. Q Could be zero? Could be two? A Correct”). In the other three soil borings, organic material continued not to depths ranging from two to four feet, but to--at most--two and one-half feet. See supra Part III.D.2. Neither Mr. McDowell nor the SEI Report described laboratory testing of the volume of organic material or stated that the volume or depth of organic material was problematic.

Mr. McDowell did not, as plaintiff contends in briefing, observe the “thorough mixing of the underlying clay base with the silty soil in every test location and at every depth between the surface and six feet deep.” Pl.’s Resp. 12. Rather, Mr. McDowell testified that “[t]here was probably clay in every sample” at every depth, including the surface. Tr. 2853:16-23 (McDowell). Mr. McDowell did not state that the presence of clay reflected mixing of the layers of soil, and plaintiff’s own expert witness in geotechnical engineering, Mr. Prochaska, stated in his deposition that the silty soil, in its natural state, could contain different proportions of silt, clay and sand, and as a result, required testing before it was used for soil cement. See Tr. 1323:18-1324:18 (Prochaska) (acknowledging prior deposition testimony). Similarly, Mr. Jones, another of plaintiff’s expert witnesses in geotechnical engineering, testified that--particularly at the intersection between silt and clay--there can be a small clay component in the silty layer, “usually in small, well[-]distributed pockets.” Tr. 927:16-25 (Jones).

Nor is the SEI Report evidence that silt had been mixed into the clay layer to a depth of six feet. The clay layer, in its undisturbed state, “is a combination of a little bit of silt, a little bit of sand and more clay.” Tr. 890:23-891:9 (Jones). Accordingly, the SEI Report stated that, beneath the “soft to very soft, saturated” silty soils, which were two to four feet deep, were “stiff to very stiff, moderately to highly plastic clay or sandy clay soils.” JX 44 (SEI Report) 3. Neither Mr. McDowell nor the SEI Report stated that additional silt had been mixed into the clay layer or that additional clay had been mixed into the silty layer, making either layer of soil inappropriate for use in construction.

The evidence presented at trial pertaining to construction practices established, consistent with the findings in the SEI Report, that, even under wet conditions, it is unlikely that the clay layer would become soft enough to mix significantly with the silt layer. See Tr. 3432:22-3433:10 (Krielow). Mr. Krielow, defendant’s expert witness in construction practices and construction cost estimation, explained that, although the silty layer becomes unstable when wet, the clay layer beneath it remains stable and able to support tracked equipment, noting, “[I]n fact, that’s how we build jobs.” Id.; cf. JX 44

(SEI Report) 3 (describing the clay layer beneath the “soft to very soft” silty soils as “stiff to very stiff”). The clay layer therefore remained largely undisturbed during Fluor’s construction activities.<sup>70</sup> See Tr. 3519:7-12 (Krielow).

Mr. McDowell did not, as plaintiff suggests, conclude that, because of the mixing of soil layers and the presence of organic debris, “the soil was not suitable for use in construction [or] recommend that the cheapest means of restoration would be removal and replacement of the soil with structural fill.” Pl.’s Resp. 12. Rather, Mr. McDowell concluded in the SEI Report that removal and replacement of the soft, unstable soils would be the most rapid means of remediating the wet, unstable, poorly drained conditions on the Leased Property given the time constraints on the government’s development activities. See supra Part III.D.2.

Plaintiff argues that Mr. Lowery, an employee of Lancon Engineers, a firm hired by Grand Acadian, “made his own independent investigation of the cost to restore the Property, and concluded it to be \$4,786,403.00.” Pl.’s Br. 12. However, the cost estimates provided by Lancon Engineers evaluated the cost of performing soil replacement in a manner specified by Mr. McConnaughay and were not independent investigations of soil conditions on the Leased Property or assessments of the measures necessary to restore the Leased Property to its condition at the beginning of the Lease term. See supra Part III.D.4.

Plaintiff contends that Mr. Prochaska, plaintiff’s expert witness in geotechnical engineering, “testified that the borings on the FEMA half showed various depths of disturbed, mixed soil types and organic debris, ash, and logs to depths of over three feet.” Pl.’s Br. 16-17. Plaintiff states that, “[d]uring his visit to the site in November 2008, Mr. Prochaska observed organic materials and wood from the surface of the soil up to four

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<sup>70</sup>In pretrial briefing, plaintiff argued that Fluor’s actions had “lower[ed] the clay base” on the Leased Property. Pl.’s Mem. of Contentions of Fact and Law, Dkt. No. 130, at 13. Plaintiff appears to have abandoned this argument in its post-trial briefing. The contention that Fluor “lower[ed] the clay base” at the Leased Property is without merit. The depth of the clay base is expected to vary, “almost like waves through the cross section of the soil.” Tr. 910:12-16 (Jones). The best evidence of the depth of the clay base is the SEI Report, which concluded that the stiff clay layer was located between two and four feet deep with an average depth of approximately three feet. See supra n.43. SEI’s calculation, based on data collected several days after Fluor’s work had begun, see supra Part III.D.2, and after the period during which Grand Acadian contends that any damage to the soil had been done, see supra n.69, is approximately consistent with the estimates made by plaintiff’s expert witnesses Mr. Prochaska (between two and four feet), Mr. Bosecker (between two and three feet) and Mr. Jones (between one and one-half and two and one-half feet) of the depth of the clay base at the beginning of the Lease--estimates that were made without the benefit of comprehensive soil sampling of the Leased Property, see supra Parts III.A.3, III.D.5, III.D.8 (describing the analyses of Mr. Prochaska, Mr. Bosecker and Mr. Jones).

feet (4') in the ground that had, in places, been pushed down by FEMA's heavy equipment and in others, burned and buried by FEMA." *Id.* at 17. The court has found unpersuasive, however, Mr. Prochaska's trial testimony about soil conditions and the restoration required on the Leased Property. *See supra* Part III.D.8. Mr. Prochaska testified in his deposition that the organic material he observed on the Leased Property can be removed by root raking and that the Leased Property can still be developed consistent with the recommendations that Grand Acadian received in the CBK Report before the beginning of the Lease. *See supra* Part III.D.8.

Plaintiff argues that Mr. Hudson found soil "conditions to be very poor, reflecting a drastic difference from his pre-Lease testing." Pl.'s Br. 15. Plaintiff contends that "[Mr.] Hudson confirmed that every boring in the disturbed locations revealed pieces of wood, roots, and organic debris, while the two samples in the undisturbed area matched his previous findings of no roots or debris." *Id.* Plaintiff argues that, by collecting soil samples only in the northernmost area of the Leased Property, Mr. Hudson "intended to collect the most favorable samples possible in the area where FEMA had done the most work." Pl.'s Br. 15. However, Mr. Hudson "had no role in the selection" of the location of his second set of soil borings, and the court has found that, in light of Mr. Hudson's pre-existing relationship with Mr. McConnaughay and in light of a number of failings in Mr. Hudson's methodology, Mr. Hudson's conclusions regarding the change in soil conditions are unsupported by his observations. *See supra* Part III.D.7.

Plaintiff argues that Mr. Bosecker, the engineer retained by FEMA after the government cancelled construction who testified at trial as plaintiff's expert witness in geotechnical engineering, "inspected the site during the lease term, determined that the site was rendered unsuitable for development as a mobile home park, that the soils needed replacing, and that the unfavorable soil conditions were attributed to FEMA's activities on the site." Pl.'s Resp. 7. Mr. Bosecker, however, had been misled by Grand Acadian's president, Mr. McConnaughay, about the work that had taken place on the Non-Leased Property, and upon receiving further information, Mr. Bosecker concluded that, because he could not determine the original site condition, he could "no longer stand by" his opinions regarding which restoration measures were necessary. *See supra* Part III.D.5.<sup>71</sup>

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<sup>71</sup>Plaintiff contends that the government's contracting officer, Mr. Gerald Matthew Rottinghaus, pressured Mr. Bosecker to modify his initial conclusions. *See* Pl.'s Post-Trial Brief (Pl.'s Br.), Dkt. No. 189, at 13 (citing, inter alia, PX 111 (Rottinghaus E-mail)). Mr. Rottinghaus's trial testimony and the e-mail cited by plaintiff establish that Mr. Rottinghaus did not attempt to influence Mr. Bosecker's opinions, but rather sought to ensure that Mr. Bosecker's opinions were based upon complete and accurate information.

Mr. Rottinghaus did not believe that Grand Acadian was candid in its responses to his questions regarding Grand Acadian's claims. Tr. 1126:9-11 (Rottinghaus). In the e-mail cited by plaintiff, which is addressed to Trey Shanks, a Freese & Nichols employee, *see id.* at 1100:8-

The soil evidence presented at trial does not support plaintiff's argument that restoration was required to return the soil to its condition at the beginning of the Lease term, normal wear excepted.

2. Additional Contentions by Plaintiff Do Not Support Soil Replacement

Nor do several arguments by plaintiff not grounded in the large amount of soil evidence adduced at trial support plaintiff's claim for soil replacement.

a. The Government's Cancellation of Construction Does Not Support Grand Acadian's Claim for Soil Replacement

Plaintiff argues that the government's cancellation of the construction of its RV park reflects the government's belief that--contrary to the government's litigation position--Fluor damaged the soil on the Leased Property. See Pl.'s Br. 11. Plaintiff contends that, "after the activities occurring within the first week of construction, Mr. Gourgues[, an employee of Group Contractors, one of Fluor's subcontractors,] concluded that the soil was no longer usable and submitted a bid for \$2,200,000.00 for restoration that included removal and replacement of thirty inches (30") of soil across the site." Id. at 9. Plaintiff argues that, "[t]o a man, the experienced contractors who had inspected the site previously and agreed to perform the construction using the existing soil[] had changed their minds and were now advocating removal and replacement." Id. at 10. Plaintiff's view is that "[o]nce the damage to the Property was reported and the additional cost was clear, FEMA issued a stop work order." Id. at 11. Plaintiff quotes an e-mail sent by Ms. Ramona Van Cleve, a FEMA employee, which, plaintiff argues, "revealed that the true motivation for the cancellation was that 'the cost per pad is too high.'" Id. (quoting PX 418 (Van Cleve E-mails) 0124)). Defendant responds that "Ms. Van Cleve, . . . who made the recommendation to cancel, and Steven DeBlasio, . . . who made

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1101:18, Mr. Rottinghaus stated he was concerned about the opinions and conclusions reached by Freese & Nichols "based partially on some information that I had that apparently had not been provided to you," PX 111 (Rottinghaus E-mail) 1. Rather than pressuring Freese & Nichols to reach different conclusions, Mr. Rottinghaus wrote, "FEMA's expectation and objective regarding the final [Freese & Nichols] report on the Grand Acadian site [is that] the report be factually correct, void of ambiguities, complete and unbiased, and if conclusions or opinions are stated, there is undisputable evidence or facts that can support all stated opinions or conclusions." Id. Mr. Rottinghaus requested an explanation of any change in Freese & Nichols's conclusions. Id.

Mr. McConnaughay had, in fact, misrepresented to Mr. Bosecker the scope of work that had been completed on the Non-Leased Property, leading Mr. Bosecker to use the Non-Leased Property as a "reference point." See supra Part III.D.5. Mr. Rottinghaus's concern that Mr. Bosecker was acting on incomplete--and perhaps intentionally misleading--information was therefore well-founded.

the decision, testified that the housing project actually was cancelled for lack of need and the project would have been built if the Government had needed it to house victims of the hurricanes.” Def.’s Resp. 15.

For two reasons, plaintiff’s argument that the government’s cancellation of its planned construction of an RV park resulted from damage to the soil by Fluor is inconsistent with the evidence presented at trial. First, Mr. DeBlasio, the FEMA official who made the decision to cancel construction, see Tr. 1633:21-25 (DeBlasio), testified that the “primary” basis for his decision to cancel the project “was that the need for housing had dwindled as all this time ha[d] elapsed,” id. at 1632:9-12; see also supra Part III.B.1 (describing Mr. DeBlasio’s testimony that “[o]ne of the risks” of building group sites is that they will become unnecessary before construction is completed); supra Part III.D.3 (describing the decline in demand for temporary housing while construction was delayed by wet soil conditions). In testimony that the court finds both credible and persuasive, Mr. DeBlasio stated that if the RV pads being built on the Leased Property were needed, they would have been completed despite the increased cost. See Tr. 1647:3-5 (DeBlasio) (“Sir, again, it’s not a matter of cost. If I had 150 families living under a bridge or in cars, this site would have been built.”); id. at 1625:7-13 (“[C]ost is always a consideration, but the primary goal is to house families, and looking at what we spent on that event, I mean, cost was not going to be a factor as far as the decisionmaking.”).

Mr. DeBlasio’s testimony is consistent with Mr. DeBlasio’s actions. Mr. DeBlasio initially approved the soil remediation work despite the increased cost because “it seemed like it was the only way that the contractors were going to get any traction so to speak in getting this construction moving” and because “[t]ime was of the essence.” Id. at 1624:10-1625:6. Asked whether his budget was “limited in terms of ability to make changes of this nature,” Mr. DeBlasio replied, “No, sir, it was not.” Id. at 1625:14-16. Mr. DeBlasio testified that he viewed the cost overrun as a “cost of doing business” because “[y]ou never know what you’re going to find when you start tearing into land.” Id. at 1633:11-20. It was not until FEMA determined that it no longer needed the RV pads that it cancelled construction. See supra Part III.D.3.

Second, the problematic soil conditions that Fluor identified as requiring remediation were not the mixing of organics into the subsurface or the mixing of the clay and silt layers, the conditions that plaintiff contends that defendant created, see supra Part IV.A.1.b, but perched, standing water and wet, unstable soil--conditions that already existed when Fluor arrived to begin work, see supra Part III.A.1 (describing Grand Acadian’s application for a wetlands determination and a permit under the Clean Water Act before beginning the clearing and logging of its sixty-acre property); supra Part III.A.5.b (describing Grand Acadian’s obstruction of drainage from the Leased Property); supra Part III.C (describing the condition of the Leased Property at the beginning of the

Lease); supra Part III.D.1-2 (describing the difficulties that Fluor encountered with the soil on the Leased Property and the results of soil borings).

After discovering that the soil on the Leased Property was wet and unstable, Fluor hired SEI to investigate. See supra Part III.D.2. In fact, the parties have stipulated that “[t]he purpose of SEI’s analysis was to determine the depth of soft, unstable soils within the area intended for construction and to provide recommendations with regard to options for remediation of the soft conditions.” JS ¶ 43; cf. JX 44 (SEI Report) 2 (“We understand that the purpose of this exploration was to determine the depth of soft, unstable soils within the area intended for construction and to provide recommendations . . . for remediation of the soft conditions.”). SEI provided no measurement of the amount of organic material or clay in the silty soil and did not state that the volume of either required remediation. Accordingly, SEI’s report made no recommendations for the remediation of excess organic material or clay in the silty soil.<sup>72</sup> SEI did recommend removal and replacement of the wet, unstable soil--instead of disking the soil and allowing it to dry naturally--not because of the volume of organic material or clay in the silt layer but because allowing the soil to dry naturally was “extremely weather dependent” and would “require extensive time and effort due to the thickness of the unstable soils encountered.” JX 44 (SEI Report) 3; see also Tr. 1623:17-25 (DeBlasio) (stating that the purpose of excavation was “to get to a good solid platform there upon which we could start to build”).

Both SEI and the contractors who worked on construction of the RV park on the Leased Property believed that the soil on the Leased Property could be used for construction that proceeds on an ordinary timeline. See, e.g., Tr. 1831:9-15 (Gourgues) (“Q Could the soil have been worked with after it dried out? A Yes. . . . It could have been worked with in the condition it was [when] wet. It would have just taken longer.”); Tr. 1740:25-1741:1 (Beck) (“[I]t was nothing that some time couldn’t fix for the most part.”); JX 44 (SEI Report) 4 (recommending replacement of soil because it was faster, but also stating that, “[i]f desirable, additional recommendations for stabilization or natural drying can be provided at your request”).

The problem that Fluor sought to remediate by removing and replacing soil was not, therefore, the amount of organic material or clay in the silty soil but the wet, unstable conditions--conditions that already existed when Fluor arrived.<sup>73</sup> The recommendation

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<sup>72</sup>The information that Mr. DeBlasio had received also indicated that the problem with the Leased Property was that the soil was wet and unstable: “[T]he contractors just could not work the land. It was too wet. They were unable to dewater.” Tr. 1623:10-14 (DeBlasio).

<sup>73</sup>Furthermore, if SEI had determined that the problem with the soil was not the wet and unstable conditions but the volume of organic material and clay in the silty soil, the solution proposed by SEI would not have been inappropriate. Approximately the uppermost sixteen inches of silty soil were thought to contain, in their natural state, too great a volume of organic

by Mr. Gourgues or any of the other contractors who worked on the Leased Property that the silty soils be removed and replaced does not reflect an acknowledgment that Fluor had damaged the soil but rather reflects a belief that the silty soil could not be dried quickly enough to meet the need for temporary housing for disaster assistance recipients. See supra Part III.B.1 (describing the urgency with which temporary housing was needed after Hurricanes Katrina and Rita); supra Part III.D.2 (describing the level of difficulty of accomplishing the soil work on the Leased Property in the thirty days allotted); supra Part III.D.3 (describing the decline in demand for temporary housing while construction was delayed on the Leased Property).

b. Comparison to Construction Activities on the Non-Leased Property Does Not Support Grand Acadian's Claim for Soil Replacement

Plaintiff contends that the "strongest evidence" that the government damaged the soil on the Leased Property is that the government found the soil on the Leased Property unsuitable soon after it began construction, whereas "Grand Acadian, who began working with the same native soils, was able to complete the dirt work phase of construction without incident by following the recommendations of its soil experts." Pl.'s Resp. 16 (citing Tr. 426:4-25 (McConnaughay)).

In the relevant portions of the testimony cited by plaintiff, Mr. McConnaughay described as follows Grand Acadian's soil work on the Non-Leased Property:

I'll speak based on my experience. . . . We treated both soils as per recommendations by reports that I had [in] different ways. We stockpiled them different. We treated the clay with lime. In the future, when we put the silty soils, the finish layer on top for the roads, those would be treated with soil cement, like in the CBK. . . . [A]nd it was very easy. We spent about around \$200,000 on the other side. And you can . . . drive on it, walk on it, [put a] FEMA trailer, whatever you want, anywhere on it.

Tr. 426:4-17 (McConnaughay).

Comparison of the government's effort to construct temporary housing for disaster assistance recipients on the Leased Property to Grand Acadian's partial construction of improvements for an RV park on the Non-Leased Property, however, is inapposite. Soil conditions on the Leased Property and the Non-Leased Property were different. The

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material to be appropriate for use as soil cement, and were therefore to be used for non-structural purposes. See supra Part III.A.3 (describing the engineering recommendations in the CBK Report). Therefore, additional organic material and clay in the uppermost sixteen inches of soil would not have been problematic, and there would have been no reason for SEI to recommend the time-consuming process of replacing this portion of the soil with fill material brought from elsewhere.

Leased Property contains a greater proportion of wetlands than the Non-Leased Property, see supra Part III.A.1 (finding that two-thirds of the Leased Property are within an area that is 42% wetlands); JX 4 (Wetlands Determination) 2 (showing, on a map of Grand Acadian's sixty-acre property, that most of the Non-Leased Property lies in the other area, which is 23% wetlands). And, perhaps most importantly, Grand Acadian had obstructed drainage from the Leased Property, see supra Part III.A.5.b, leading to the accumulation of standing, perched water that created and exacerbated soft, unstable soil conditions, see supra Part III.A.5.b (describing the accumulation of perched water); supra Part III.D.2 (describing the soil conditions documented by SEI). The government's contractors arrived at the Leased Property to begin work on January 7, 2006, see supra Part III.D.1, at a time when the natural characteristics of the soil, the obstructed drainage and a recent rainfall of more than two and one-half inches combined to make the Leased Property into "a very wet, muddy site," supra Part III.A.5.b.

The wet, unstable soil conditions made the Leased Property inappropriate for rapid development as temporary housing for disaster assistance recipients, see supra Parts III.D.1-3, but do not preclude the development of the Leased Property as an ordinary RV park, see supra Part III.D.8.b (describing the deposition testimony of Mr. Prochaska that the Leased Property can still be developed consistent with the recommendations in the CBK Report if wet weather is avoided); supra Part IV.A.2.a (describing the opinion testimony of the government's contractors and SEI that the Leased Property could be developed if sufficient time was available to allow the soil to dry).

Comparisons to construction activities on the Non-Leased Property do not support Grand Acadian's claim for soil replacement.<sup>74</sup>

c. Purported Admissions by Fluor and Government Personnel Do Not Support Grand Acadian's Claim for Soil Replacement

Plaintiff contends that government and Fluor employees have admitted that the Leased Property requires restoration. See Pl.'s Br. 11-14; Pl.'s Resp. 8-9. In support of this argument, plaintiff relies upon the testimony, taken out of context, of witnesses with

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<sup>74</sup>Furthermore, whether or not the soil work undertaken by Grand Acadian on the Non-Leased Property was successful is a topic not squarely addressed at trial. Mr. McConnaughay testified about construction efforts on the Non-Leased Property, see supra Part IV.A.2.b, and aerial photographs show excavated and graded areas where it appears that Grand Acadian was creating roads, parking lots and ponds on the Non-Leased Property before it ceased construction, see JX 75 (Dec. 29, 2006 Aerial Photos) 2069-75; JX 77 (Jan. 29, 2007 Aerial Photos) 2047-49, 2063, 2066, but no comprehensive soil data from the Non-Leased Property was presented at trial. Nor was the reason that Grand Acadian ceased work on the Non-Leased Property addressed at trial. The court sustained objections on the grounds of lack of foundation, hearsay and relevance to certain testimony by Mr. McConnaughay regarding the cessation of work on the Non-Leased Property. See Tr. 149:2-154:8 (colloquy between Mr. McConnaughay, the court and counsel).

no personal knowledge of the condition of the Leased Property at the beginning of the Lease, of the work undertaken by Fluor before its stormwater remediation efforts, or of the effect of Fluor's construction activities on subsurface soil conditions.

Citing the trial testimony of FEMA employee Ms. Van Cleve and e-mails written by Ms. Van Cleve, plaintiff argues that "Ms. Van Cleve confirmed that FEMA contractors 'had scraped the land raw' and testified that there was never any question in her mind that the Grand Acadian property needed to be restored, stating that it was unacceptable the way that Grand Acadian was being treated by FEMA and asking FEMA employees to make it right." Pl.'s Br. 11 (quoting Tr. 568 (Van Cleve)). Defendant responds that "Ms. Van Cleve never saw the pre-lease condition of the property or any construction work, and she relied on Mr. McConnaughay for all of her information." Def.'s Resp. 15. Based on the parties' stipulations in this matter, defendant points out that "Mr. McConnaughay did not tell Ms. Van Cleve that, by December 2005, Grand Acadian's contractors already had scarified the surface and there was virtually no grass or ground vegetation left on the leased property prior to any Government construction." *Id.* Scarification is the process of clearing vegetation. *See* Tr. 1140:10-14 (Jarboe). It is uncontested that the Leased Property was scarified by Grand Acadian's contractors before the beginning of the Lease. *See* JS ¶ 37 ("In December 2005, there was virtually no grass or ground vegetation upon the leased property."); *supra* Part III.A.4 (describing the logging and clearing of the Leased Property by Grand Acadian's contractors before the Lease began).

Defendant is correct. Mr. DeBlasio described Ms. Van Cleve as belonging to the "programmatically side" of FEMA rather than the "contracting arena," and described her responsibilities as including "dealing with the local parish folks, possibly landowners to some degree, . . . looking at the numbers of our daily reports, . . . looking for trends, looking for just unmet needs out there." Tr. 1622:2-8 (DeBlasio). Ms. Van Cleve had no experience "with soil projects," Tr. 587:12-14 (Van Cleve), and did not know what construction activities had taken place on the Leased Property prior to February 2006, *see id.* at 588:8-24. Ms. Van Cleve described her role as "the in-between person between Mr. McConnaughay . . . and our Baton Rouge office." *Id.* at 587:8-11.

In fact, Ms. Van Cleve's only source of information about soil conditions and the need for restoration was Mr. McConnaughay. *See id.* at 590:5-10. Ms. Van Cleve described a conversation that she had with Mr. McConnaughay in his truck, in which she asked him the cost of any required restoration and Mr. McConnaughay agreed to develop an "exact figure" for Ms. Van Cleve to "take forward." *Id.* at 586:12-22. Ms. Van Cleve did not have the expertise to analyze Mr. McConnaughay's restoration request. *Id.* at 587:1-7. Ms. Van Cleve explained that by her use of the word "unacceptable," she meant that "it was unacceptable that it was taking that long to work with Mr. McConnaughay and decide what we were doing with his land[, b]ecause he couldn't use the 30 acres that we had a lease on," *id.* at 577:20-578:8, an explanation that

was inconsistent with the government's right under the Lease to continue to occupy the Leased Property until the Lease terminated.

Plaintiff also relies on the testimony of one Fluor employee and two P2S employees assigned to undertake stormwater remediation on the Leased Property. See Pl.'s Br. 14-15. Plaintiff contends that "in a candid conversation with Pat McConnaughay, [Timothy Wilson] promised to restore the Property that Fluor had 'screwed up.'" Pl.'s Br. 14 (quoting and citing Tr. 808-09, 817-18 (Wilson)). Mr. Wilson's role, however, was to oversee stormwater remediation, not construction of the RV park. See Tr. 800:11-23 (Wilson). Mr. Wilson "never saw the condition of the property" before he arrived in August 2006, see id. at 809:22-23, 800:1-3, and was not familiar with the construction activities that took place before he arrived, see id. at 823:9-12. Mr. Wilson therefore has no personal knowledge of the condition of the Leased Property at the beginning of the Lease or the effect of Fluor's work on subsurface conditions.

Furthermore, Mr. Wilson explained at trial that "Fluor screwed it up in the sense that we had stuff we needed to do to get back in conformance with the storm water permit." id. at 810:16-19; see also id. at 809:17-20 ("I told him that it was screwed up, but screwed up in a sense that it was unfinished. It was obviously a place that had been started and then pulled off."). Mr. Wilson testified that Fluor "had some erosion issues, [and] some silt in the bayou from the drainage ditches." Id. at 801:3. Mr. Wilson testified that "we had to go back and get the property viable to meet the storm water permit requirements." Id. at 800:21-23; see also supra Part III.D.6 (describing Fluor's stormwater remediation efforts).

In briefing, plaintiff quotes out of context selected words from the testimony of Mr. Chris Cloud, arguing that Mr. Cloud and Mr. Dousay were assigned to "'recla[im]' the Property or level it off after it had been 'disturbed' and 'damage[d]' by previous contractors." Pl.'s Br. 14 (brackets added) (quoting Tr. 2870-71, 2877 (Cloud)). Mr. Cloud, who supervised the P2S employees performing stormwater remediation on the Leased Property, see Tr. 2870:1-6, 2872:10-24 (Cloud), first saw the Leased Property late in the summer of 2006, id. at 2870:19-23. Mr. Dousay, who was employed by P2S as a foreman on the Leased Property, visited the Leased Property for the first time in August 2006. See Tr. 2891:12-16 (Dousay). Neither Mr. Cloud nor Mr. Dousay had personal knowledge of the condition of the Leased Property at the beginning of the Lease or the effect of Fluor's construction efforts on subsurface conditions.

Furthermore, read in context, the testimony quoted by plaintiff indicates that Mr. Cloud believed that any damage to the Leased Property related to stormwater controls and erosion rather than subsurface conditions. In the sentences in which Mr. Cloud referred to "damage" to the Leased Property and described the Leased Property being "disturbed" by other contractors, Mr. Cloud's testimony described areas that needed to be leveled for stormwater compliance, not to mixing of the soil layers or the pushing down

of organic materials into the subsurface of the soil. See Tr. 2877:9-10 (Cloud) (“We went there to try to level it back off from the damage that was done prior.”); id. at 2871:1-3 (“We were asked to come in and level the property back off that [had been] disturbed earlier by another contractor.”); cf. supra Part III.D.6 (describing the requirement that 70% of the property be planted with ground cover to satisfy the requirements of the stormwater permit). Mr. Cloud appeared to use the term “reclamation” because he had confused “reclamation” with the term “stormwater remediation.” See Tr. 2871:3-5 (Cloud) (“It’s called a reclamation if I remember[–]that’s what they said we was going in to [do–]a reclamation on this property.”).

Plaintiff contends that when Mr. Mark Ashby, who is employed by Fluor as a government contracts administrator, Tr. 833:3-14 (Ashby), “requested [Gerald Matthew] Rottinghaus[, the government’s contracting officer,] for authority to perform restoration work, Rottinghaus refused,” Pl.’s Resp. 8 n.22. Plaintiff provides no citation to support this proposition, and the details of any request were not presented at trial. See id. The implication of plaintiff’s argument is that, by requesting authority to perform restoration of the soil, Mr. Ashby acknowledged that the soil requires soil replacement. The evidence presented at trial does not support plaintiff’s argument.

By an e-mail dated February 25, 2006, the government’s COTR, Mr. Tom Nadsady, directed Fluor to “[s]olicit bids for land restoration work at the Grand Acadian site.” JX 50 (Nadsady E-mail). Mr. Nadsady stated that “[t]he scope of work shall include the removal of debris piles and grading the site to restore a natural drainage pattern,” as well as seeding grass. Id. Mr. Nadsady did not state that the scope of work was to include the removal and replacement of soil. Id. Mr. Nadsady did not testify at trial and Mr. DeBlasio--the only recipient of the e-mail to testify at trial--was not asked about the e-mail.

By an e-mail dated August 8, 2006, Mr. Ashby answered questions posed in an earlier e-mail from Mr. Rottinghaus regarding work that, it appears from the e-mail, Fluor suggested would be necessary to “restore the property back to the condition it was at the time of the effective date of the lease.” PX 303 (Ashby E-mail) 4847. The nature of the work that Fluor thought was necessary was not described in the e-mail and the authors of the responses did not testify at trial. See Tr. 863:2-17 (Ashby) (Mr. Ashby explaining that he “facilitate[d] the responses,” but that they were written by others). Nor did the e-mail describe why Fluor believed that restoration of the Leased Property was appropriate.

Referring, the court concludes, to Mr. Bosecker, the engineer retained by FEMA after the government cancelled construction and who testified at trial as plaintiff’s expert witness in geotechnical engineering, see supra Part III.D.5 (describing Mr. Bosecker’s restoration analysis), the August 8, 2006 e-mail explained as follows “the disparity between [Mr. Bosecker’s] solution to restore the property to the original condition” and Fluor’s proposal:

The main disparity exists between . . . the standard used for ‘original condition’ to which to return the land. The government consultant used the original condition prior to deforestation . . . Fluor’s measure was to return it [to] an equal condition [to that] prior to Fluor commencing construction activities in the wake of [H]urricane Rita and the removal of timber by the owner. . . . [Mr. Bosecker’s] solution proposes to remove 4 feet of the soil with the addition of back fill to make this site suitable for commercial use or development, not the original state of the property. In addition, there are engineering fees, consulting fees, surveys, replacement of trees, and site dewatering costs that Fluor deemed unnecessary or redundant for completion of the site remediation to its original state.

PX 303 (Ashby E-mail) 4848. It appears from the price of the work that Fluor proposed to undertake, compare id. at 4847 (proposing a price of \$448,274), with Pl.’s Resp. 29 (arguing that the court should award Grand Acadian \$6,095,529.13 for the government’s breach of its duties under the Restoration Clause), and from Fluor’s disagreement with Mr. Bosecker’s suggestion of removing and replacing four feet of soil, that Fluor believed that relatively minor restoration efforts--not to include soil replacement--were appropriate, cf. supra Part III.D.6 (describing Fluor’s stormwater remediation efforts and filling of the portion of the South Ditch on the Leased Property). The purported admissions of government and Fluor personnel cited by plaintiff do not support plaintiff’s claim for soil replacement. The government is not responsible to restore the Leased Property to its “original condition prior to deforestation.” PX 303 (Ashby E-mail) 4848.

### 3. Any Change in Soil Conditions Was Normal Wear

The Restoration Clause does not require the government to remedy a change in soil conditions if the change is the result of normal wear. Supra Part III.B.3. The analysis of whether construction impacts on the soil of the Leased Property is normal wear requires the court to determine whether Fluor exercised reasonable care in its work on the Leased Property. See supra Part II.B. For the reasons described below, the court finds that Fluor exercised reasonable care in its work on the Leased Property and that any change in soil conditions necessarily resulted from the purpose for which the Leased Property was leased.

#### a. Soil Damage that Would Necessarily Result from the Purpose for Which the Leased Property Was Leased Is Normal Wear

Damage to a property that necessarily results from the purposes for which the property was leased is normal wear. See Mount Manresa, 70 Ct. Cl. at 150. Accordingly, the specific purpose for which a property is leased is central to the determination of what constitutes normal wear. See Riverside, 122 Ct. Cl. at 783.

The Lease describes the purpose for which the Leased Property was leased as follows: “Use of the Property shall be for construction and establishment of temporary housing facilities for disaster assistance recipients and construction of improvements . . . as the Government determines necessary and/or expedient in connection with the establishment and operation of temporary housing facilities.” Supra Part III.B.3 (quoting JX 31 (Lease Rider) ¶ 2).

At trial, Mr. DeBlasio, the housing officer for FEMA’s joint field office in Baton Rouge, Louisiana, described the urgency with which temporary housing was required for disaster assistance recipients. Hurricanes Katrina and Rita had displaced between 200,000 and 300,000 families. See supra Part III.B.1. Describing the demand for temporary housing, Mr. DeBlasio testified that, for two months after Hurricane Rita, “the numbers were increasing all the time,” and “[t]here was no end in sight.” Supra Part III.B.1 (quoting Tr. 1614:16-20 (DeBlasio)). Honore’s subcontract with Fluor, reflecting the urgency of the need for temporary housing, required Honore to finish all aspects of construction within sixty days. See supra Part III.D.1.

Some normal wear would necessarily result from preliminary construction work of the type undertaken by Fluor. It is “normal to have some organic material mixed into the top layers of soil during every clearing operation.” Tr. 1317:20-25 (Prochaska); see also Tr. 3450:6-15 (Krielow) (stating same). Pulling up stumps can bring balls of clay to the surface, see Tr. 3562:22-3563:4 (Krielow), and the resulting stumpholes must be carefully cleaned out before the construction of paved areas, see supra Part III.A.3. Burn piles can penetrate the clay layer, see Tr. 3551:15-24 (Krielow), and produce ash, which may interfere with the use of silty soil for soil cement, see Tr. 1351:13-16, 1352:18-21 (Prochaska). The excavation of features such as the East Ditch, the South Ditch and the retention pond requires penetration of the clay layer. See Tr. 3551:15-3552:8 (Krielow).

The government’s construction efforts were hampered by wet, unstable soil conditions, see supra Parts III.D.1-2, which had been exacerbated by Grand Acadian’s own actions, particularly the construction by Grand Acadian of the road at the eastern boundary of the Leased Property, blocking drainage from the Leased Property, see supra Part III.A.5.b. Owing to the urgency of the purpose for which the government leased the Leased Property--the housing of disaster assistance recipients, see supra Part III.B.1--the court finds that the government necessarily would have attempted to drain the Leased Property and dry the soil before concluding that construction could not be completed before the demand for temporary housing ebbed. The government necessarily would have worked rapidly and would have continued to undertake clearing and any other “work-around activities,” see supra Part III.D.3, that could be accomplished during the delay. As appears below, trial evidence includes no proof of failure by the government’s contractor to exercise reasonable care in its work. See infra Part IV.A.3.b. Any damage to the soil would necessarily have resulted from the purpose for which the Leased Property was leased and would be normal wear.

b. Fluor Exercised Reasonable Care in its Activities on the Leased Property

Plaintiff argues that the construction practices employed by the government were flawed in several respects. See Pl.’s Br. 7-11. In particular, plaintiff faults Fluor for “beg[inning] significant dirt work operations, using heavy equipment, without undertaking any effort to establish drainage or mitigate the saturated conditions,” id. at 8; see also id. at 9-11; Pl.’s Resp. 16-19 (repeating plaintiff’s argument that Fluor employed heavy equipment on the Leased Property before establishing drainage), and for failing to “clear[] the land of surface debris,” Pl.’s Br. 8. Plaintiff did not present expert testimony on the topic of construction practices. Instead, in support of this argument, plaintiff cites the testimony of Mr. McConnaughay and Mr. Mark A. Fontenot, one of the subcontractors who worked on the Non-Leased Property, about their observations of the work that Fluor performed on the Leased Property.<sup>75</sup> See id.

Mr. Fontenot testified that Fluor was “cutting roads in there but they didn’t provide any drainage to get rid of the water.” Tr. 964:1-9 (Fontenot); see also id. at 962:15-18 (“They didn’t drain the water from the site before starting to work.”). It appeared to Mr. Fontenot that Fluor “just pushed and piled up mud, or they didn’t allow the soils to dry enough to work.” Tr. 961:21-24 (Fontenot). Mr. Fontenot believed that clearing had been completed on all but one corner of the Leased Property.<sup>76</sup> See id. at 966:6-15.

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<sup>75</sup>Defendant responds that Mr. McConnaughay “has no personal experience as a construction contractor,” and that Mr. Fontenot “did no work on the leased property, did not walk on the leased property, did not speak with anyone working for Fluor, and had limited knowledge of Fluor’s work on the leased property.” Def.’s Resp. to Pl.’s Post-Trial Mem., Dkt. No. 192, at 13.

Mr. McConnaughay did not testify at trial to any experience working as a construction contractor. See Tr. 44:4-45:13 (McConnaughay) (describing his work experience). In a brief portion of his testimony, Mr. McConnaughay stated that he once “built about a 20-acre development . . . put[ting] that project together and manag[ing] it” on behalf of an individual who was working out of state, id. at 45:7-13, but did not describe his role in the project or testify that he was involved in construction. Defendant is correct that Mr. Fontenot never walked on the Leased Property during construction or spoke with any of the contractors. See Tr. 965:10-17 (Fontenot).

<sup>76</sup>Pursuant to an agreement between the parties, Mr. Fontenot was permitted to testify as a percipient witness but was not tendered as an expert witness. See Tr. 955:7-14 (colloquy between the court and counsel). Where Mr. Fontenot’s testimony addressed topics that require “scientific, technical, or other specialized knowledge,” see Fed. R. Evid. 701(c), such as the proper drainage of construction sites, see, e.g., Tr. 962:15-962:19 (Fontenot), the court treats Mr. Fontenot’s testimony as reflecting only his experience establishing site drainage and Mr. Fontenot’s and Mr. McConnaughay’s state of mind regarding the construction practices used on the Leased Property. To determine whether proper construction practices were used on the

Contrary to Mr. Fontenot's mistaken observations made from the Non-Leased Property and plaintiff's argument in briefing, Fluor did not "skip" drainage,<sup>77</sup> see Pl.'s Resp. 14, 17, and proceed directly to road construction as Mr. Fontenot believed, see supra Part III.D.1 (describing Fluor's activities on the Leased Property before the government ordered Fluor to stop work). Rather, Fluor undertook precisely the types of drainage and clearing activities that plaintiff and Mr. Fontenot contend were required. See supra Part III.D.1.

Almost immediately after its arrival at the Leased Property, Fluor began digging temporary drainage ditches, spreading wet soil on higher ground to dry, and employing pumps to dewater the soil. See supra Part III.D.1. Fluor constructed berms to prevent stormwater from eroding the Leased Property and dug permanent drainage and erosion prevention structures: the East Ditch, the South Ditch and the retention pond. See supra Part III.D.1. To facilitate its construction and digging, Fluor cleared trees and other debris from the areas where it planned to work. See Tr. 1735:18-1736:1 (Beck); see also supra Part III.D.1 (describing Fluor's drainage and clearing activities). As Mr. Fontenot acknowledged, it is necessary to perform clearing "in the area that you're working on" when constructing roads and RV pads. Tr. 966:20-967:4 (Fontenot). Similarly, Mr. McConnaughay noted that, in its development of the Non-Leased Property, Grand Acadian cleared the areas where it planned to perform "any dirt work," including the digging of ditches. Tr. 222:3-25 (McConnaughay). To support its clearing, drying and drainage efforts, and to make efficient use of some of the clay being excavated from the East Ditch, the South Ditch and the retention pond, Fluor began to construct a temporary road along the east side of the Leased Property.<sup>78</sup> See supra Part III.D.1. However, Fluor

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Leased Property, the court has relied upon the testimony of the witnesses timely disclosed by the parties and qualified by the court as expert witnesses. See Fed. R. Evid. 702(a) (stating that an expert witness may testify if, inter alia, "the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue").

<sup>77</sup>In its briefing, plaintiff argues, without citation to evidence, that "[t]he Fluor drainage plan called for temporary ditches across the site that flowed into a retention pond, that flowed into a north/south ditch, that flowed southerly into an east/west ditch, that flowed eastward off of the property and into a natural bayou. Fluor skipped the drainage plan and instead started traversing the site with heavy equipment from the outset." Pl.'s Resp. 17. Although witnesses described Fluor's drainage plan for the Leased Property when permanent drainage structures had been completed, see, e.g., Tr. 1346:13-1349:1 (Prochaska), no plan for temporary drainage was entered into evidence or described at trial. Mr. Krielow testified that "in a perfect world," water would drain from temporary drainage ditches into a retention pond with an outflow that carried water off of the Leased Property. Tr. 3536:14-3537:5, 3538:23-3539:16 (Krielow). In any case, the evidence presented at trial does not indicate that Fluor's temporary drainage ditches and dewatering activities were ineffective in removing water from the Leased Property.

<sup>78</sup>Grand Acadian does not argue that Fluor's construction of the temporary road was unnecessary to support Fluor's drainage, dewatering or clearing activities or that construction of

did not begin to construct permanent roads, RV pads, parking lots or other structures not required to support its activities. See supra Part III.D.1; Tr. 3418:14-3419:3 (Krielow) (stating that Fluor “had not actually gotten into what I would consider the heavy earth work part of the project when it was stopped”).

Plaintiff argues that defendant should have established drainage and cleared the surface of debris before undertaking further work. See Pl.’s Br. 8-11; Pl.’s Resp. 16-19. It therefore follows from plaintiff’s own view of the work necessary to be undertaken by the government at the beginning of the Lease term that any harm to the soil that resulted from establishing drainage, drying the soil and clearing surface debris necessarily resulted from the purpose for which the Leased Property was leased and is normal wear for which defendant is not liable in damages. Although plaintiff argues that Fluor did not complete the South Ditch, the East Ditch and the retention pond soon enough, Pl.’s Br. 8-9, plaintiff does not argue that Fluor did not exercise reasonable care in these activities. Plaintiff blames Fluor for delay on the ground that Fluor failed timely to make the necessary phone calls to have the locations of underground utilities marked. See id. Defendant responds that “no one testified that Fluor originally intended to begin work by excavating the permanent ditches. In fact, the timing of marking the utilities did not actually impact the construction schedule because Fluor always had planned to clear the surface before excavating the permanent ditches.” Def.’s Resp. 12. Defendant is correct, as Fluor’s site manager, Mr. Rothkamm, explained in the following colloquy:

Q Did the timing of the call . . . change anything about the schedule for the project?

A No, sir.

Q Why do you say that?

A We had several days of clearing.

Q Okay. Did the timing of the call . . . change anything about the order in which tasks would be performed on the project?

A No, sir.

Q Why is that?

A That’s the way the schedule was laid out.

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the temporary road was undertaken without reasonable care. To the contrary, Grand Acadian argues that the damage to the Leased Property was substantially complete by January 11, 2006, see supra n.69, the day before construction of the temporary road began, see JX 37 (Fluor Daily Reports) 2473.

Tr. 790:12-23 (Rothkamm); see also Tr. 1734:25-1736:17, 1737:15-19 (Beck) (stating that the timing of the call to request that utilities be marked did not affect the timing of excavating the South Ditch and the East Ditch); 1834:18-22 (Gourgues) (stating same).

At trial, Mr. Krielow, defendant's expert witness in construction practices and construction cost estimation, testified that the wetness and instability of the silty soil probably prevented Fluor from excavating the South Ditch and the East Ditch before the temporary drainage ditches and dewatering efforts had drained the Leased Property and dried the soil: "More than likely, if they would have . . . attempted to put the permanent ditches in at this stage they would have gotten filled in, sloughed in, or they would not have ended up where they needed to end up for the final plans." Tr. 3445:7-24 (Krielow). Mr. Krielow explained that, in "all" of the projects in which Mr. Krielow has encountered perched water, he has established temporary drainage to "get the site in a condition that we can work on." Id. at 3446:19-22; cf. id. at 3434:14-17 ("[T]he order of work that they were performing . . . was what I would expect to see on the site of this nature just getting started in the preparatory stages . . ."). The court finds no evidence in the trial record to contradict Mr. Krielow's expert testimony that any change in the condition of the Leased Property was within what would be considered normal wear in the construction industry. See id. at 3424:5-3425:3.

Fluor's construction activities on the Leased Property were almost entirely limited to creating drainage, drying the soil and removing surface debris<sup>79</sup>--activities which were necessary to prepare the Leased Property for further construction, see supra Part III.D.1, and which plaintiff agrees that Fluor should have performed, see Pl.'s Br. 8-11; Pl.'s Resp. 16-19. The court finds no indication that Fluor failed to exercise reasonable care in its work; accordingly, any changes in the soil that resulted from Fluor's work are the result of normal wear.

Grand Acadian has not persuaded the court that soil replacement or other soil restoration efforts are required to return the Leased Property to its condition at the beginning of the Lease term, normal wear excepted. Grand Acadian's arguments regarding the condition of the soil at the beginning of the Lease rely upon evidence of soil conditions developed before Grand Acadian undertook months of clearing and

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<sup>79</sup>Grand Acadian does not argue that Fluor's stormwater remediation after construction harmed the Leased Property or was undertaken without reasonable care. To the contrary, Grand Acadian contends that the soil on the Leased Property remains in substantially the same condition as on January 11, 2006, see supra n.69, approximately seven months before Fluor began stormwater remediation, see supra Part III.D.6. Furthermore, because Fluor's stormwater remediation--which entailed filling a portion of the South Ditch, maintaining stormwater controls, and grading and seeding portions of the Leased Property--was required by the stormwater permit, see supra Part III.D.6, the damage, if any, to the soil that resulted from Fluor's stormwater remediation efforts, in the absence of a failure to exercise reasonable care, is normal wear, see supra Part II.B.

logging. See supra Part IV.A.1.a. Descriptions of the clearing and logging, the testimony of plaintiff's own expert witness in geotechnical engineering, Mr. Jones, and the work that Grand Acadian undertook on the Non-Leased Property to remove organic material from the soil all indicate that Grand Acadian's own activities prior to the commencement of the Lease term introduced substantial amounts of organic debris into the soil. See supra Parts III.A.3-4, III.A.5.a, IV.A.1.a.

According to Grand Acadian's argument in briefing, as a result of the government's actions, the soil on the Leased Property is unsuitable for use in construction without removal and replacement of the uppermost two and one-half feet of soil. See Pl.'s Br. 18-21. However, Grand Acadian never conducted the testing necessary to determine whether the soil is suitable for use in construction. See supra Part IV.A.1.b. Visual inspection indicates that there is little organic debris beneath the surface of the soil, and plaintiff's own expert witness in geotechnical engineering, Mr. Prochaska, testified in his deposition that the organic material he observed could be removed in the same manner as the organic material in the soil on the Non-Leased Property. See supra Part III.D.8. In addition, Mr. Prochaska testified during his deposition that Grand Acadian could still develop the Leased Property consistent with the engineering recommendations that Grand Acadian received before the Lease. See supra Part III.D.8.b.

In its briefing, Grand Acadian invites the court to speculate that, in the first four full days of construction, Fluor's alleged improper construction practices damaged the soil on the Leased Property. See Pl.'s Br. 8-11; Pl.'s Resp. 2, 7-13. Relying upon the testimony of Mr. McConnaughay, who has never worked as a construction contractor, and the testimony of Mr. Fontenot, a subcontractor who worked on the Non-Leased Property but never entered the Leased Property and appears to have misunderstood the nature of the work taking place there, Grand Acadian contends that Fluor failed to establish drainage and proceeded directly to other construction activities. The evidence presented at trial, however, indicates that Fluor undertook precisely the activities Grand Acadian argues it should have--creating drainage, dewatering and attempting to dry soil, and clearing the surface of the Leased Property--rather than proceeding directly to other construction. The court agrees with defendant that Fluor exercised reasonable care in its work and caused no harm to the soil on the Leased Property that did not necessarily result from the purpose for which the Leased Property was leased. Any changes in the soil on the Leased Property were normal wear that would be anticipated by the permitted use. The court concludes that plaintiff is not entitled to damages for soil replacement or other soil restoration.

#### B. Grand Acadian's Claim for Removal of Alterations

In its 2011 Summary Judgment Opinion, the court found that the Restoration Clause required the government to fill the retention pond, the East Ditch and the unfilled portions of the South Ditch. See supra Part I; 2011 SJ Op., 97 Fed. Cl. at 493-94. At the

time of the court's 2011 Summary Judgment Opinion, it was not clear why the government had left these structures unfilled.

However, trial testimony makes clear that the retention pond, the East Ditch and the unfilled portions of the South Ditch “were maintained to comply with the LDEQ storm water permit.” Def.’s Br. 52 n.8. The government contends that the Lease did not require the government to fill these structures because the Lease “requires the Government to ‘comply with all Federal, state and local laws applicable to the . . . premises, including . . . laws applicable to the construction, ownership, alteration or operation of’ the property.” Id. at 52-53 (omissions in original) (quoting JX 31 (General Clauses) ¶ 15). Defendant states that it learned that the retention pond, the East Ditch and the unfilled portions of the South Ditch were maintained to comply with the LDEQ storm water permit only “[a]fter Heather Berg returned to the United States in December 2011 following several years in Afghanistan.” Id. at 52 n.8. Ms. Berg, an environmental scientist, was employed on the Leased Property to ensure that P2S complied with Fluor’s stormwater pollution prevention plan and to advise P2S on the process of stabilizing the surface of the Leased Property. See supra Part III.D.6.

The government contends that “[LDEQ] visited Grand Acadian’s property one time in mid-September 2006 and recommended that Fluor maintain the east ditch on the leased property, the retention pond on the leased property, and the south ditch on the non-leased property, along with other water control measures, to comply with state requirements for storm water management.” Def.’s Br. 32-33 (citing Tr. 3874:10-3878:19, 3887:21-3889:9 (Berg); JX 64 (Berg E-mail)).

Plaintiff does not respond in its briefing to defendant’s contention. It is undisputed that Ms. Berg did not return to the country until approximately December 11, 2011, nine months after the court’s 2011 Summary Judgment Opinion. See Def.’s Consent Mot. for the Ct. to Hear Live Trial Test. of One Witness Out of Time, Dkt. No. 145, at 1 (defendant’s counsel representing, in a motion to which plaintiff’s counsel consented, that Ms. Berg would return on approximately December 11, 2011); Grand Acadian, Inc. v. United States, 101 Fed. Cl. 398, 410 (2011) (granting defendant’s motion to hear the testimony of Ms. Berg).

Defendant is correct that the Lease requires the government to “comply with all Federal, State and local laws applicable to and enforceable against it as a tenant under this lease.” See supra Part III.B.3. The court “must interpret [the Lease] as a whole and ‘in a manner which gives reasonable meaning to all its parts and avoids conflict or surplusage of its provisions.’” United Int’l Investigative Servs. v. United States, 109 F.3d 734, 737 (Fed. Cir. 1997) (quoting Granite Constr. Co. v. United States, 962 F.2d 998, 1003 (Fed. Cir. 1992)). In light of Ms. Berg’s uncontested testimony that the retention pond, the East Ditch and the portion of the South Ditch on the Non-Leased Property were left in place at the recommendation of LDEQ for purposes of stormwater control, see Tr. 3874:10-3876:9, 3887:21-3889:9 (Berg); JX 64 (Berg E-mail), and the fact that Ms. Berg

was overseas until after the court's 2011 Summary Judgment Motion, the court concludes in the light of Ms. Berg's trial testimony that the Lease did not require the government to remove the retention pond, the East Ditch or the portion the South Ditch on the Non-Leased Property.<sup>80</sup>

#### V. Disposition of the Government's Counterclaims

The government pleaded counterclaims in fraud under the FCA, the FFCA and the antifraud provision of the CDA. See Answer ¶ 187.

Each of the three statutes under which defendant pleaded its counterclaims has a mental state requirement. The FCA requires the government to prove by a preponderance of the evidence that the contractor knew that a claim presented to the government was false or fraudulent, see supra Part II.C.1, and defines "knowingly" as "(1) 'actual

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<sup>80</sup>In its Answer, the government claimed that "[p]laintiff's claims for damages are barred, in whole or in part, because plaintiff already has been compensated \$800,000 by defendant's contractor and its subcontractors and insurers" through settlements in related litigation. Answer ¶ 184. "The purpose of damages for breach of contract is generally to put the wronged party in as good a position as he would have been had the contract been fully performed." S. Cal. Fed. Sav. & Loan Ass'n v. United States, 422 F.3d 1319, 1332 (Fed. Cir. 2005). "In light of this general purpose, a wronged party is typically not allowed to recover twice for the same harm, here a breach of contract." Id. at 1332-33. This is true "even where claims exist under both contract and tort." Id. at 1333. "[A] nonsettling defendant is entitled to a credit of the settlement amount against any judgment obtained by the plaintiff against the nonsettling defendant as long as both the settlement and judgment represent common damages." Singer v. Olympia Brewing Co., 878 F.2d 596, 600 (2d Cir. 1989).

Once a non-settling defendant has shown "that the plaintiff settled claims with other parties on which the non-settling defendants were found liable at trial . . . , the burden then shifts to the plaintiff to prove that, under the terms of its agreement with the settling defendants, the settlement did not represent common damages with the [trial] award." U.S. Indus., Inc. v. Touche Ross & Co. (U.S. Indus.), 854 F.2d 1223, 1262 (10th Cir. 1988), overruled on other grounds as recognized by Anixter v. Home-Stake Prod. Co., 77 F.3d 1215, 1231 (10th Cir. 1996); accord In re Tex. Gen. Petrol. Corp., 52 F.3d 1330, 1340 (5th Cir. 1995); Gulfstream III Assocs., Inc. v. Gulfstream Aerospace Corp., 995 F.2d 425, 436 (3d Cir. 1993).

Grand Acadian's settlement agreements do not allocate the settlement amounts between its various claims against Fluor and its subcontractors; instead, the agreements simply release the defendants from "any and all claims." See JX 79 (Grand Acadian Fluor Settlement) 1; JX 80 (Grand Acadian Subcontractor Settlement) 3. A plaintiff may not, by signing a settlement agreement that is ambiguous or that does not allocate settlement amounts, deprive a defendant of a credit to which the defendant is otherwise entitled. See, e.g., U.S. Indus., 854 F.2d at 1262-63. If Grand Acadian were entitled to damages in this litigation, the government would be entitled to a credit of \$800,000 against any such damages.

knowledge,’ (2) acting ‘in deliberate ignorance of the truth or falsity’ of information, or (3) acting ‘in reckless disregard of the truth or falsity’ of information,” Daewoo, 557 F.3d at 1340 (quoting 31 U.S.C. § 3729(b)). To prevail under the antifraud provision of the CDA, the government must prove by a preponderance of the evidence “that the contractor made false or fraudulent statements in its submitted claim with an intent to deceive or mislead the government.” Commercial Contractors, 154 F.3d at 1362. “To prevail under [the FFCA], the government must ‘establish by clear and convincing evidence that the contractor knew that its submitted claims were false, and that it intended to defraud the government by submitting those claims.’” Daewoo, 557 F.3d at 1341 (quoting Commercial Contractors, 154 F.3d at 1362).

In its post-trial briefing, the government summarizes its counterclaims as follows:

Grand Acadian made misrepresentations of material fact concerning the pre-lease condition of the property in its certified claim for “restoration” of dead, dying, and damaged trees and non-existent grass, even though Grand Acadian’s president, Patrick McConnaughay, visited Grand Acadian’s property nearly every day in November and December 2005 and was familiar with the property’s condition on December 7, 2005.

Def.’s Br. 59 (some quotation marks omitted). For the following reasons, the court finds that the evidence presented at trial does not support the government’s counterclaims.

#### A. Grass

In Grand Acadian’s Second Certified Claim, Grand Acadian demanded payment of \$144,000, which includes the associated portion of a 20% project contingency fee, to hydroseed grass on the Leased Property. See JX 59 (Second Certified Claim) 0010. The parties have stipulated that “[i]n December 2005, there was virtually no grass or ground vegetation upon the leased property.” JS ¶ 37. The government argues that, “[d]espite actual knowledge that there was no grass upon the leased property in December 2005, Grand Acadian never once disclosed this fact to the contracting officer despite maintaining a claim for restoration of grass, thus creating the misleading impression that grass existed prior to the lease, when none actually existed.” Def.’s Br. 61.

Grand Acadian argues that “[nowhere] in its claim did Grand Acadian make a representation regarding the state of ground cover prior to the lease.” Pl.’s Resp. 23. Grand Acadian contends that it included the cost of seeding the Leased Property in its Second Certified Claim because “[b]y law, Mr. McConnaughay must re-seed in order to comply with DEQ regulations.” Pl.’s Br. 24-25. Grand Acadian argues that, at trial, both defendant’s counsel and Heather Berg, an environmental scientist employed by Fluor’s subsidiary, TRS, conceded the existence of this requirement. See id.

Defendant responds that “[t]he contracting officer asked Grand Acadian questions about the certified claims, and Grand Acadian never provided ‘any justification for its claim for hydroseeding grass.’” Def.’s Br. 61 (quoting Tr. 1126:3-11 (Rottinghaus)). Defendant argues as follows regarding Mr. McConnaughay’s testimony related to the requirement to seed grass:

At trial, Mr. McConnaughay testified on direct that a Louisiana storm water permit requirement is the basis of the grass claim, but, on cross, he admitted that: (i) “I don’t know exactly when I decided that,” (ii) he didn’t obtain such a permit when D&G Construction performed similar work [on the Non-Leased Property], and (iii) he could not provide any evidence or describe any circumstances that would corroborate his claim to have learned about the permit requirement prior to September 2006, when Fluor planted sod and grass on the property.

Id.

The concession by defendant’s counsel and by Ms. Berg that stormwater permits issued by LDEQ require the establishment of ground cover is dispositive of defendant’s counterclaims regarding the planting of grass. See Tr. 1207:1-10 (defendant’s counsel) (“[T]here is in fact some [LDEQ i]nstruction, possibly a regulation, requiring the seeding of grass on disturbed areas of property exceeding five acres or more. And I wanted the Court to understand that the Government does not contend there is no such instruction or regulation.”); Tr. 3860:4-3861:16 (Berg); cf. supra Part III.D.6 (describing Fluor’s planting of grass to satisfy the requirements of the stormwater permit). That Mr. McConnaughay was unable to articulate precisely when and how he learned of the requirement that disturbed soil be stabilized with ground cover, and that Mr. McConnaughay may not have complied with the rule in previous work on the Non-Leased Property, as defendant argues, see Def.’s Br. 61, does not supply proof sufficient to carry the government’s evidentiary burden.<sup>81</sup>

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<sup>81</sup>Defendant briefly argues in the alternative that “Grand Acadian certified a claim for 30 acres of hydroseed, or 100 percent coverage, on the roughly 30-acre leased property. Accordingly, even if Grand Acadian’s non-fraudulent explanation were credited as to the 70 percent of the claim for hydroseeding grass (\$100,800), the remaining 30 percent (\$43,200) still would be false and inflated . . . .” Def.’s Br. 61-62 (citations omitted). Although Ms. Berg testified that the government’s stormwater permit required 70% ground coverage, see Tr. 3860:4-3861:16 (Berg), she did not explicitly testify that the 70% requirement--as distinguished from a 100% coverage requirement--would apply to Grand Acadian’s proposed restoration efforts. The regulatory requirements of Louisiana stormwater permits were neither squarely addressed at trial nor briefed by the parties. The court is unable to conclude on the record before it that Grand Acadian’s claim for the cost of planting grass was inaccurate or inflated.

For the foregoing reasons, the court finds that the government has not carried its burden of establishing the requisite mental state under the FCA, the FFCA or the antifraud provision of the CDA with regard to Grand Acadian's claim for the cost of planting grass.

#### B. Trees

Before the Lease began, Grand Acadian's contractors largely cleared and logged the Leased Property, leaving some trees standing for aesthetic purposes. See supra Part III.A.4. Hurricane Rita knocked down some of the trees left by Grand Acadian's contractors. See id. During the Lease term, to accommodate construction, Fluor removed all of the remaining trees on the Leased Property. See supra Part III.D.1. In Grand Acadian's Second Certified Claim, Grand Acadian demanded payment of \$180,000--including the associated portion of a 20% project contingency fee--to replace 150 trees on the Leased Property. See JX 59 (Second Certified Claim) 0010. The court has determined that the Lease does not entitle Grand Acadian to the cost of replacing trees on the Leased Property. See supra Part I. In support of its counterclaims relating to Grand Acadian's claim for the replacement of trees, the government argues that Grand Acadian misrepresented both the number and the state of health of the trees on the Leased Property at the beginning of the Lease term. See Def.'s Br. 59-60.

The government cites the testimony of Mr. Bosecker, see id. at 22, who testified that Mr. McConnaughay informed Freese & Nichols personnel that he had "left approximately 150 trees on the leased property to add aesthetic value to the property," Tr. 704:14-17 (Bosecker); cf. supra Part III.A.4 (describing Mr. McConnaughay's marking of trees that were not to be removed during Grand Acadian's logging and clearing operations). The government argues that "Grand Acadian had actual knowledge that clearing activities and Hurricane Rita caused extensive damage to the trees prior to December 2005." Def.'s Br. 59-60 (citing McConnaughay Dep. 133:10-21, May 21, 2010 (stating that in December 2005 the Leased Property "had some downed hurricane trees"); McConnaughay Dep. 252:2-5, May 21, 2010 ("I know that 90 percent of every tree in southwest Louisiana was damaged to some extent or another by Rita."); Tr.

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Rather, Grand Acadian's inclusion of the cost of seeding all of the disturbed soil could reflect an intention to comply with the regulatory requirements. Mr. John Lowery, the engineer who created Grand Acadian's cost estimate, see supra Part III.D.4, testified that he included the cost of planting grass on thirty acres because he believed that approximately thirty acres of soil would be disturbed, see Tr. 2934:14-20 (Lowery). Although the court has determined that Mr. Lowery made no independent investigation of the measures necessary to restore the soil on the Leased Property to its pre-Lease condition, see supra Part III.D.4, the fact that Mr. Lowery, after he had been instructed that seeding the disturbed area should be included in the cost estimate, see Tr. 2934:21-2935:1 (Lowery), decided to include in his cost estimate the cost of seeding all--rather than 70%--of the disturbed soil reflects an independent judgment upon which Grand Acadian could--not unreasonably--rely in its certified claim.

3741:1-24 (McConnaughay) (“I’m sure a few [trees] died from the clearing activities.”)).

The government argues that its expert witness in arboriculture, Mr. Joseph Robert Samnik, Jr., using enlarged photographs that were “enhanced with clarity that was exponentially better than the 8.5 by 11 inch versions of the joint exhibits used at trial,” determined that only 110 trees were standing on the Leased Property at the beginning of the Lease term, the others having been downed by Hurricane Rita. Def.’s Br. 22 (internal quotation marks omitted). Based upon Mr. Samnik’s analysis of the trees on the Non-Leased Property, defendant argues that, “[o]f the 110 trees that were standing, 10 were dead or nearly dead as any person without tree biology training could recognize, and the remaining 100 trees were in less advanced stages of dying or were damaged to various degrees.” *Id.* at 59. The government cites Mr. Samnik’s testimony that only a trained arborist can recognize “trees that are damaged, irreparably damaged, or in an early stage of dying (or ‘decline’), but an average person without tree biology training can recognize that ‘something is wrong’ with trees in a moderate stage of decline, and any untrained layperson can recognize trees that are either dead, or in advanced decline (‘nearly dead’).” *Id.* at 24 (quoting Tr. 3678:15-3682:1 (Samnik)).

In the government’s view, Mr. McConnaughay must have been aware--or, at a minimum, must have acted with reckless disregard for the fact--that, because certain of the 150 trees that he had left on the Leased Property for aesthetic purposes were killed and nearly all were damaged by Hurricane Rita and by Grand Acadian’s clearing activities, not all 150 of the trees remained alive and healthy at the beginning of the Lease term. *See id.* at 62-68 (applying the standards of the FCA, the FFCA and the antifraud provision of the CDA to plaintiff’s certified claims).

Grand Acadian responds that Mr. McConnaughay “had not counted the trees before Fluor removed them because there was no way of knowing while the trees were still standing that the FEMA Park would be cancelled mid-stream, that his land would be returned in an un-restored condition, or that he would have to file a lawsuit in order to enforce the lease agreement.” Pl.’s Br. 21. Grand Acadian argues that its expert witness in tree health and tree appraisal, Mr. Evarist Joseph (E.J.) Dennis, III, determined that there were more than 150 living trees standing on the Leased Property at the beginning of the Lease term and “offered favorable opinions about their health.”<sup>82</sup> *Id.* at 21-22, 24.

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<sup>82</sup>In their briefing, the parties discuss at length the number and the state of health of the trees standing on the Leased Property at the beginning of the Lease term. *See, e.g.*, Pl.’s Br. 21-26; Def.’s Br. 22-25, 59-60. Because the court has ruled that Grand Acadian is not entitled to the cost of replacing trees, *see supra* Part I, and because it is not necessary to determine the precise number and the state of health of the trees on the Leased Property at the beginning of the Lease term in order to decide the government’s counterclaims, the court makes no findings of fact on these issues.

The implication of Grand Acadian's argument is that Mr. McConnaughay's estimate of the number of trees standing on the Leased Property was both accurate and reasonable given the information available to him. See id.

The government has not carried its burden of proving the requisite mental state under the FCA, the FFCA or the antifraud provision of the CDA regarding Grand Acadian's claim for the cost of replacing trees. Mr. McConnaughay consistently testified that he estimated--but did not count--the number of trees standing on the Leased Property at the beginning of the Lease term. See, e.g., McConnaughay Dep. 198:17, May 21, 2010 ("I never counted the trees. I estimated."); Tr. 3735:24-3736:5 (McConnaughay) ("Q Okay. How did you come up with the number of trees? A It was an estimate of what I recalled was left on the site after we did our initial clearing and the hurricanes, up to the point of the lease. Q Did you count the trees? A No, I did not.").

The government argues that only 110 trees were standing on the Leased Property at the beginning of the Lease term, ten of which were "dead or nearly dead." Def.'s Br. 24-25. The court agrees with plaintiff, however, that Mr. McConnaughay's estimate of the number of trees on the Leased Property--even if inaccurate--was not unreasonable. See Pl.'s Br. 21-22, 24; Tr. 3736:10-16 (McConnaughay). The photographs presented at trial consisted of aerial photographs taken from a great height, see, e.g., JX 17 (Sept. 31, 2005 Aerial Photo); JX 34 (Dec. 15, 2005 Aerial Photos), and ground-level photographs of small portions of the Leased Property, see, e.g., JX 35 (Dec. 29, 2005 Photos). The court views the photographs presented at trial, in the hands of a person with no special training in arboriculture, as supporting only a rough estimate of the number of trees on the Leased Property. Defendant argues that Mr. Samnik arrived at a more accurate count of the trees standing on the Leased Property using photographs that were "enhanced with clarity that was exponentially better than the 8.5 by 11 inch versions of the joint exhibits used at trial," Def.'s Br. 22 (internal quotation marks omitted), but does not contend that Mr. McConnaughay had available similarly enlarged or enhanced photographs when estimating the number of trees on the Leased Property or the number of trees that were downed by Hurricane Rita or killed during clearing.

Neither has the government persuaded the court that Grand Acadian misrepresented the state of health of the trees in its Second Certified Claim. The government argues that 100 of the 110 trees standing on the Leased Property at the beginning of the Lease term were in "less advanced stages of dying or were damaged to various degrees," Def.'s Br. 24-25, and that Grand Acadian's certified claim "creat[ed] the misleading impression" that the remaining trees were healthy, id. at 60. However, Mr. Samnik testified that a person without training in tree biology would not notice anything wrong with a tree in an early stage of decline and might believe that a tree in a moderate stage of decline can be saved with pruning. See Tr. 3681:6-21 (Samnik).

Mr. Samnik described types of damage that would not be apparent to a person without training in tree biology. See, e.g., id. at 3623:13-3624:14 (describing “the three ways to kill a tree”: compaction of the air space in the soil, disruption of root systems, as with a root rake, and cutting down the grade of the soil around the tree); id. at 3624:24-3625:6 (describing how gouges in tree trunks from construction equipment lead to infection by opportunistic fungi, “which cannot be stopped”); id. at 3693:5-3694:19 (describing epicormic growth, in which a tree responds to injury by growing leaves in places where it would not grow them otherwise); id. at 3695:13-3696:7 (describing the susceptibility of magnolia trees to damage from clearing activities because of their large root systems).

Mr. Samnik also described signs of damage that, although apparent during his assessment of trees remaining on the Non-Leased Property in September 2010, see id. at 3674:21-22, might not have been apparent--particularly to the untrained eye--before Grand Acadian filed its Second Certified Claim in July 2006, nearly four years earlier, see, e.g., id. at 3692:18-3693:1 (describing the process of canopy dieback that occurs “as defenses in the tree break down”). Mr. Samnik testified that construction disturbs the shallow roots that “collect moisture and mineral[s] from the soil,” id. at 3627:20-22, and that “enable a tree to survive” rather than merely offering support, id. at 3671:23-25. The government has not proven that either the extent of this damage or its implications for the survival of the trees would have been apparent to Mr. McConnaughay when Grand Acadian filed its Second Certified Claim in July 2006. See JS ¶ 62.

For the foregoing reasons, the court finds that the government has not carried its burden to establish the requisite mental state under the FCA, the FFCA or the antifraud provision of the CDA with regard to Grand Acadian’s claim for the cost of replacing trees.

## VI. Conclusion

Grand Acadian has not carried its burden to prove by a preponderance of the credible evidence that further measures are required to restore the soil on the Leased Property to its condition at the beginning of the Lease term, normal wear excepted.<sup>83</sup> Nor does the Lease entitle Grand Acadian to the cost of filling the retention pond, the East Ditch and the unfilled portions of the South Ditch, which were left in place for purposes of stormwater control. The Clerk of Court shall ENTER JUDGMENT for the government on Grand Acadian’s claims.

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<sup>83</sup>At trial, the parties brought cross-motions for judgment on partial findings pursuant to RCFC 52(c). See Tr. 3298:6-3299:13 (defendant’s counsel); 3732:14-3733:3 (plaintiff’s counsel). The parties’ motions under RCFC 52(c) are MOOT.

The government has not carried its burden to prove the elements of its counterclaims in fraud. The Clerk of Court shall ENTER JUDGMENT for Grand Acadian on the government's counterclaims.

No costs.

IT IS SO ORDERED.

s/ Emily C. Hewitt  
EMILY C. HEWITT  
Chief Judge

## APPENDIX A

### Witnesses Upon Whose Live Testimony the Court Relies

For convenient reference, the name, in alphabetical order, and a description of each witness upon whose live testimony the court relies in this Opinion follows. With the consent of the parties and to shorten the process of voir dire, see Tr. 654:21-656:16 (colloquy between the court and counsel), the court admitted into evidence the resumes of certain expert witnesses who testified at trial.

Mr. Gavin D. Abshire is an expert witness for plaintiff. Mr. Abshire has completed coursework in several construction- and business-related topics. See PX 516 (Abshire Resume) 3. Mr. Abshire has worked almost exclusively in construction since 1981 and is the president and owner of River West Enterprises, Inc., see id. at 1-3, a company that manages capital projects on behalf of government agencies, see Tr. 1365:19-1366:6 (Abshire). Mr. Abshire held a contractor's license that expired the year before trial was held. See id. at 1369:25-1370:1. The court qualified Mr. Abshire "as an expert in construction." Tr. 1370:12-14 (court).

Mr. Jesse L. Arnold is an expert witness for defendant. Mr. Arnold holds a bachelor's degree and a master's degree in civil engineering from Louisiana State University and is licensed as an engineer by the state of Louisiana. See DX 26 (Arnold Resume) 1-2. Since 1993, Mr. Arnold has been the president and owner of J.L. Arnold, Inc., a company that has had "numerous consulting assignments involving soil investigations for foundation and earthwork design and construction." Id. at 1. The court qualified Mr. Arnold as "A professional engineer with expertise in the area of geotechnical engineer[ing]." Tr. 3349:18-23 (colloquy between the court and defendant's counsel).

Mr. Mark Ashby is a fact witness called by plaintiff. Mr. Ashby is employed by Fluor as a government contracts administrator, Tr. 833:3-12 (Ashby), a role in which Mr. Ashby facilitated communication with the government's contracting officer, see id. at 833:14-18, 834:8-15.

Mr. Kenneth T. Beck is a fact witness called by defendant. During the period of time relevant to this case, Mr. Beck was the owner of Goodrich Equipment, see Tr. 1722:16-19 (Beck), a subcontractor employed by Group Contractors to conduct clearing, grubbing and stripping of topsoil from the Leased Property, id. at 1726:24-1727:10, and to dig drainage ditches, see id. at 1734:22-24.

Mr. Robert H. Benton, Jr. is a fact witness called by defendant. During the period of time relevant to this case, Mr. Benton was an employee of D. Honore Construction, see Tr. 3301:15-24 (Benton), the company hired as Fluor's general contractor for the Grand Acadian project, Tr. 302:2-3 (McConnaughay). Mr. Benton served as project

manager for the Grand Acadian project, a role that “mainly focus[ed] on the office end of the project,” id. at 3303:7-3304:5.

Ms. Heather Berg is a fact witness called by defendant. During the period of time relevant to this case, Ms. Berg was employed as an environmental scientist by TRS, a subsidiary of Fluor. See Tr. 3838:11-18 (Berg). Ms. Berg’s responsibilities included conducting environmental assessments, preparing stormwater pollution prevention plans and ensuring compliance with health and environmental regulations.<sup>84</sup> See id. at 3838:22-3839:1.

Mr. Ronald Billedeaux is a fact witness called by defendant. During the period of time relevant to this case, Mr. Billedeaux was the owner of AAA Construction, the company hired by Mr. McConnaughay to clear and grub Grand Acadian’s sixty-acre property. See Tr. 2960:2-17 (Billedeaux).

Mr. David Anthony Bosecker is an expert witness for plaintiff. Mr. Bosecker holds degrees in geology and civil engineering from the University of Illinois, Tr. 659:12-14 (Bosecker), and is a registered professional engineer in the state of Texas, id. at 664:16-18. The court recognized Mr. Bosecker as an expert “in geotechnical matters, with respect to the composition of subsurface soils,” but did not recognize Mr. Bosecker as an expert in estimating the cost of restoring land thought to be damaged. Tr. 668:12-17 (court). Mr. Bosecker’s firm was hired by FEMA to work on the Leased Property, see Tr. 668:21-24 (Bosecker), but Mr. Bosecker was called as a witness by plaintiff, who subpoenaed him to testify, see Grand’s Mot. for Leave to Serve Subpoena Upon Witnesses Who Reside More than 100 Miles from the Place of Trial, Dkt. No. 127, at 1.

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<sup>84</sup>Because Ms. Berg was out of the country at the time of the trial, her testimony was heard in Washington, DC on January 5, 2012. Jan. 23, 2012 Order, Dkt. No. 187, at 1. Ms. Berg’s testimony was recorded by the court’s electronic digital recording (EDR) system and then transcribed. Id.

Because the transcript of Ms. Berg’s testimony indicates that certain portions of Ms. Berg’s testimony were inaudible although her answers could be heard at the hearing and can be heard on the EDR recording, see id., the court directed the parties to endeavor to agree upon the content of any testimony described as inaudible in the transcript but audible in the EDR recording and cited by the parties in their briefing, see Feb. 29, 2012 Order, Dkt. No. 196, at 1-2. The parties submitted a proposed transcription of fifteen brief portions of Ms. Berg’s testimony described as inaudible in the transcript. See Def.’s Proposed Transcription of Portions of Jan. 5, 2012 Trial Test. Deemed “Inaudible” By Ct. Rep., Dkt. No. 195; cf. Def.’s Unopposed Mot. for an Order Directing Correction of the Trial R., Dkt. No. 194. The court deemed the transcription provided by the parties “to be the correct transcription of the corresponding testimony [provided by] Ms. Berg and described by the court reporter as ‘inaudible.’” Feb. 29, 2012 Order 2.

Mr. Christopher A. Cloud is a fact witness called by defendant. During the period of time relevant to this case, Mr. Cloud was employed as a project manager by P2S, a subsidiary of Fluor. See Tr. 2868:24-2869:7 (Cloud). Mr. Cloud supervised the P2S employees working on the Leased Property, id. at 2869:19-2870:3, and visited between eight and fourteen times to check on their work, id. at 2872:25-2873:6.

Mr. Gary Couret is a fact witness called by defendant. Mr. Couret is a botanist employed by the Corps to perform “wetland determination and delineation[] for purposes of Section 404 under the Clean Water Act” and for purposes of enforcement. Tr. 1655:16-1656:2 (Couret). Mr. Couret reviewed Grand Acadian’s wetlands determination request, id. at 1657:6-25, and conducted a site visit on September 21, 2004, see id. at 1659:7-21.

Mr. Stephen M. DeBlasio, Sr. is a fact witness called by defendant. During the period of time relevant to this case, Mr. DeBlasio was a division director in the FEMA regional office in New York City. See Tr. 1607:5-9 (DeBlasio). Mr. DeBlasio traveled to the area affected by Hurricane Katrina and served as the Housing Area Command logistics support representative, a role that required him to “ensure that the appropriate number of manufactured housing units, park models and travel trailers were procured and delivered to the Gulf Coast area.” Id. at 1607:9-18. Mr. DeBlasio coordinated “procurement, delivery, receipt, accounting and storage [and] staging of all the units for both Mississippi and Louisiana.” Id. at 1607:24-1608:2. When FEMA came under pressure to secure more housing for hurricane victims in Louisiana, Mr. DeBlasio was appointed the housing officer in FEMA’s joint field office in Baton Rouge, Louisiana. See id. at 1611:11-22.

Mr. Evarist Joseph (E.J.) Dennis, III is an expert witness for plaintiff. Mr. Dennis is an arborist licensed by the states of Mississippi and Louisiana and has taken a number of classes in his field. See PX 519 (Dennis Resume) 1-4. Mr. Dennis describes his current position as “Owner and operator of E.J. Dennis and Associates, Inc.” Id. at 4. The court qualified Mr. Dennis as an expert witness in “tree health” and “tree appraisal.” Tr. 3767:8-10 (court).

Mr. Lamar Dousay is a fact witness called by defendant. During the period of time relevant to this case, Mr. Dousay was employed as a foreman by P2S, see Tr. 2890:24-2891:7 (Dousay), a Fluor subsidiary, Tr. 2869:1-5 (Cloud). Mr. Dousay’s supervisor was Mr. Cloud. Tr. 2891:17-19 (Dousay). Mr. Dousay can be seen operating equipment in photographs of the work performed by P2S on the Leased Property. See, e.g., JX 63 (Sept. 2006 Photos) 1442; cf. Tr. 2894:11-13 (Dousay) (identifying himself in same).

Mr. Mark A. Fontenot is a fact witness called by plaintiff. Mr. Fontenot is the owner of MSK Enterprises. Tr. 956:6-7 (Fontenot). After Grand Acadian’s sixty-acre property had been divided, MSK Enterprises was hired as a subcontractor to excavate and

place sediment to create ponds and roads on the Non-Leased Property. See id. at 958:23-959:25.

Mr. Kevin P. Gourgues is a fact witness called by defendant. Mr. Gourgues is employed by Group Contractors, Tr. 1781:11-14 (Gourgues), a subcontractor hired by Honore, id. at 1802:13-17. Mr. Gourgues visited the Leased Property at “at least five or six times” during the Grand Acadian project. Id. at 1806:22-24.

Mr. Edward A. Hudson is a fact witness called by plaintiff. Mr. Hudson owns the Summit Group, see Tr. 3208:11-3209:1 (Hudson), a data collection service for engineers, id. at 3245:6-9; see also Tr. 3419:24-25 (Krielow) (describing the Summit Group as a “testing lab that gathered the samples and did some classifications”). In June 2005 Mr. Hudson performed soil borings at the Grand Acadian’s sixty-acre property, see Tr. 3245:10-21 (Hudson), and provided the results of his observations to Mr. Ronald Jones, an engineer hired by plaintiff to assist with the planning of its RV park, see Tr. 877:1-10 (Jones); cf. JX 5 (First Summit Report) (describing Mr. Hudson’s observations to Grand Acadian). Mr. Hudson provided Grand Acadian with the results of additional soil borings on October 6, 2006. See PX 52 (Second Summit Report).

Dr. Herman H. Jarboe is a fact witness called by defendant. Dr. Jarboe, a biologist, is a water resource planner with the Corps and a subject matter expert in ecosystem restoration. Tr. 1128:19, 1130:2-5 (Jarboe). Dr. Jarboe aids “in the planning of projects that are related to the water resource activities of the Corps.” Id. at 1130:12-15. After Hurricanes Katrina and Rita, Dr. Jarboe was a member of a team that “evaluat[ed] sites for temporary housing facilities.” Id. at 1131:7-13. Dr. Jarboe is not an expert in geotechnical matters. Id. at 1131:20-22. His role was to review potential housing sites and evaluate “natural resource conditions and the overall state of the site in regards to natural resources.” Id. at 1132:13-21.

Mr. Ronald H. Jones is an expert witness for plaintiff. Mr. Jones holds bachelor’s and master’s degrees in civil engineering from Tulane University and is an engineer licensed by the state of Louisiana and specializing in geotechnical engineering. Tr. 874:2-11 (Jones). Mr. Jones is the owner of CBK Soils Engineering, Inc. See id. at 874:22-24. Mr. McConnaughay hired Mr. Jones “to do engineering recommendations for the roadways, parking lots and RV pads” for Grand Acadian’s RV park--a project for which, using test data from soil borings collected by Mr. Hudson, Mr. Jones produced a report on July 25, 2005. Id. at 877:1-17; see also JX 10 (CBK Report). The court recognized Mr. Jones “as an expert in the field of geotechnical engineering, recognizing [that,] in this case[,] he’s likely to speak about soils.” Tr. 875:18-21 (court).

Ms. Science Kilner is a fact witness called by defendant. During the period of time relevant to this case, Ms. Kilner was a regional environmental officer for FEMA and was deployed after Hurricane Katrina to Baton Rouge, Louisiana as deputy environmental liaison officer for housing to support FEMA’s temporary housing mission.

See Tr. 1765:21-1766:17 (Kilner). Ms. Kilner’s role was to conduct environmental reviews, which she described as ensuring compliance with a suite of environmental and historic preservation laws triggered by federal action. See id. at 1766:21-1767:12.

Mr. Carl J. Krielow is an expert witness for defendant. Mr. Krielow is a contractor licensed by the states of Louisiana and Mississippi, Tr. 3410:10-13 (Krielow), and currently owns two construction companies, id. at 3410:14-23. Mr. Krielow has been involved in construction since 1978, primarily working on public works projects that “entail clearing, grubbing, excavation, embankment, [and] road construction.” Id. at 3405:9-16. Mr. Krielow has constructed several RV parks at state campgrounds, certain of which involved the use of soil cement for stabilization beneath roads. Id. at 3408:21-3409:13. Mr. Krielow has experience constructing drainage and completing cost estimates for remediation of property by replacing unsuitable soils with select fill. See id. at 3410:24-3413:18. The court qualified Mr. Krielow “as an expert in construction practices and construction cost estimation.” Tr. 3415:5-8 (court).

Mr. John Lowery is a fact witness called by defendant. Mr. Lowery is a employed as a senior project engineer by Lancon Engineers, a firm retained by Grand Acadian in April 2006 to provide a cost estimate to perform certain restoration work on the Leased Property. Tr. 2927:17-2928:9 (Lowery).

Mr. John Patrick (Pat) McConnaughay is a fact witness called by plaintiff. Mr. McConnaughay is a shareholder of Grand Acadian and serves as both its president and a member of its board of directors. See McConnaughay Dep. 8:18-9:1, Oct. 28, 2008. Mr. McConnaughay was on Grand Acadian’s property “[v]ery close to every day and most of the day.” Tr. 141:18-20 (McConnaughay).

Mr. Clint McDowell is a fact witness called by defendant. Mr. McDowell is an engineer licensed by the state of Louisiana and is the owner of Site Engineering, Inc. (SEI), which “provide[s] geotechnical engineering and materials testing services.” Tr. 2805:13-20 (McDowell). SEI was hired by Honore to “determine the extent of soft . . . unstable soils on the” Leased Property. Id. at 2806:8-14; see also JX 41 (SEI Preliminary Report); JX 44 (SEI Report).

Mr. Billy R. Prochaska is an expert witness for plaintiff. Mr. Prochaska is a geotechnical engineer and holds a bachelor’s degree from the University of Louisiana at Lafayette and a master’s degree in engineering from the University of Florida. Tr. 1209:6-1210:5 (Prochaska). Mr. Prochaska has never worked as a contractor. Id. at 1213:17. The court recognized Mr. Prochaska as an expert in the field of geotechnical engineering, see Tr. 1211:14-16 (colloquy between court and plaintiff’s counsel), but advised the parties that the court would sustain objections to testimony by Mr. Prochaska related to construction, see Tr. 1214:16-24 (court).

Mr. David Scott Rothkamm is a fact witness called by defendant. Mr. Rothkamm was employed by Fluor as the site manager at the Leased Property, Tr. 733:22-23 (Rothkamm), a position in which Mr. Rothkamm's role was "[t]o assure the project gets built within budget and on time," id. at 735:19-21. Mr. Rothkamm monitored the progress made by subcontractors and passed "any engineering issues that arose . . . up the ladder." Id. at 736:16-19.

Mr. Gerald Matthew Rottinghaus is a fact witness called by plaintiff. Mr. Rottinghaus became a contracting officer for FEMA in August 2006 and was assigned to review the Grand Acadian claim. Tr. 1055:16-19 (Rottinghaus).

Mr. Joseph Robert Samnik, Jr. is an expert witness for defendant. Mr. Samnik is an arborist certified by the International Society of Arboriculture. Tr. 3609:21-24 (Samnik). The court qualified Mr. Samnik "as an expert in the field of arboriculture." Tr. 3615:16-17 (court).

Ms. Ramona Van Cleve is a fact witness called by plaintiff. Ms. Van Cleve held several positions with FEMA after Hurricanes Katrina and Rita, including director of the area field office and housing officer for temporary housing units. See Tr. 560:6-561:8 (Van Cleve). Ms. Van Cleve visited the Grand Acadian site "two or three times," with the first visit occurring on February 10, 2006. Id. at 561:23-562:3.

Mr. Timothy Wilson is a fact witness called by plaintiff. Mr. Wilson is an employee of Fluor and served as construction manager on the Leased Property, see Tr. 798:25-799:16 (Wilson), from approximately August to September 2006, see id. at 799:23-800:10. During this time, Mr. Wilson "oversaw the [stormwater] remediation efforts on the property." Id. at 800:11-15.

Mr. Leo Brent Wofford is a fact witness called by defendant. Mr. Wofford is a manager at Kinder Timber Company, LLC, the company hired by Mr. McConnaughay to log Grand Acadian's property. See Tr. 3019:13-3020:8 (Wofford).

APPENDIX B

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